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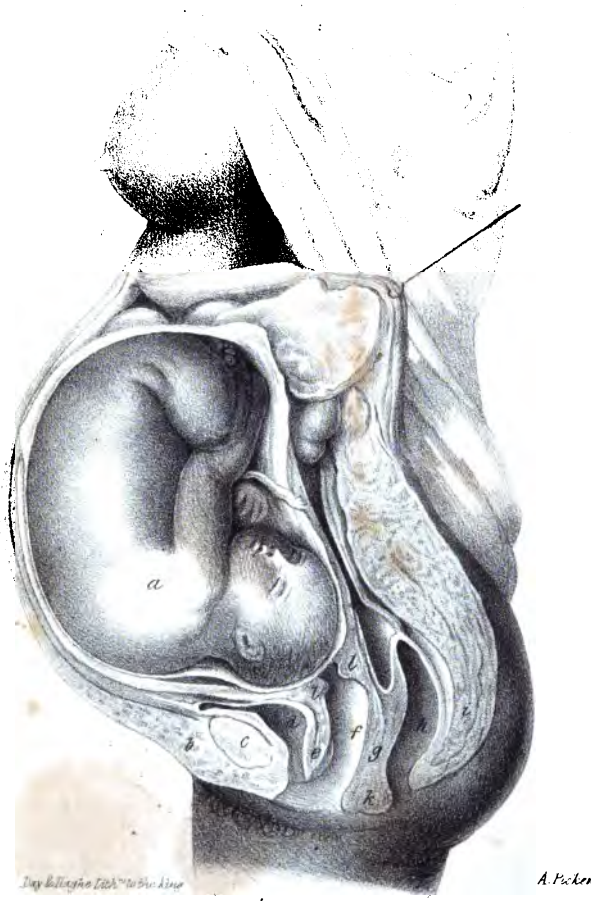

Section of the Abdomen at the Ninth Month of Pregnan

a. Usual position of the Infant.
b. Section of Mons Veneris.
c. do of Pubes.
d. do of Bladder.
e. Recto Vaginal septum.
f. Vagina.
g. Recto Vaginal Septu
h. Rectum.
i. Section of Sacrum.
k. do of Perinæum.
l. Lips of Os Uteri.

MANUAL

OF

PRACTICAL MIDWIFERY:

CONTAINING A DESCRIPTION OF

NATURAL AND DIFFICULT LABOURS,

WITH

THEIR MANAGEMENT.

INTENDED CHIEFLY AS A BOOK OF REFERENCE FOR STUDENTS AND JUNIOR PRACTITIONERS.

Illustrated by Fifteen Engravings.

BY JAMES REID, M. D.

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PREFACE.

THE Author has long been impressed with the belief, that notwithstanding the many voluminous and valuable works on Midwifery already published, there yet exists a deficiency in one respect;—indeed, he has frequently heard students, and those just entering on the arduous practical duties of the accoucheur, complain of the want of a work, which, while it should include all the information that might be necessary in the moment of doubt and difficulty, could still, from its size, be porta-

ble, and easily referred to, at the precise time when assistance is so anxiously required, and delay might be so perilous. Denman's excellent Aphorisms answer, to a certain extent, this object; but they are, perhaps, *too* limited, and as they refer principally to cases in which the use of the forceps is required, they do not fully attain the end proposed.

It is with a view to supply this deficiency, that the Author ventures to offer this little work to the notice of students and junior practitioners. It is almost exclusively confined to the department of Tokology, or Labour. The subjects of Conception, Menstruation, Diseases of Utero-gestation, and some others, are necessarily excluded, as the introduction of them would, if treated at sufficient length, have increased the size of the

work far beyond the prescribed limit; moreover, as they do not demand so urgently the immediate assistance of the practitioner, they might, perhaps, have been foreign to its object.

The wood-engravings which are inserted with the letter-press, have been introduced for the purpose of illustrating those facts, on the knowledge of which the most important practical rules are founded, and of which, in many instances, language conveys but an inadequate and vague notion: they are taken, with some alterations, from the plates of Smellie, Maygrier, and Velpeau.

The Author has made use of the Tables drawn up and published by several eminent obstetric authorities, showing the detailed results of a very large number of cases, and he has added a similar return

of a considerable number which have fallen under his own notice or superintendence, during the last four years and a half, in a somewhat extensive field of observation, afforded chiefly by the practice of two large parishes,—St. Giles, and St. George, Bloomsbury. These statements occupy small space, but it is hoped may be useful, as tending to give a just idea of the relative frequency of the various presentations, or accidents, during labour, which may be met with in the course of practice.

In the composition of the work, brevity and plainness of language have been kept always in view—attention being directed rather to distinctness of explanation, than to any attempt at laboured elegance of style.

10, *Bloomsbury Square,*
Nov. 1835.

CONTENTS.

PAGE

Dimensions of the adult female pelvis . . 2
Diameter of the brim 3
of the outlet . . . 4
Depth of the cavity . . . 6
Axes of the pelvis . . . 7
Malformation of the pelvis . . . 8
Dimensions of the fœtal head . . . 11
of the shoulders and breech . . 14
Average size and weight of child at the full term. 14
Anatomy of vagina 15
of uterus 15
Term of gestation 17
Precursory symptoms of LABOUR . . 20
State of cervix uteri at different periods . . 22
False or spurious pains . . . 23
On the duties of the accoucheur . . 24
Position of the patient . . . 27
Examination "per vaginam" . 27
Existence of labour 28

Duties of the accoucheur continued.
Progress of do. 29
Diagnosis as to presentation . . 30
General directions . . . 35
Of Labour 39
Classification of labours . . . 41

CLASS 1.—NATURAL LABOUR . . 41
General observations on it . . . 42
Average duration of natural labours . . 51
Four Positions of the head in vertex presentations 55
1. Occiput forward and to the right . . 56
2. forward and to the left . . 57
3. backward and to the right . 58
4. backward and to the left. . . 58
Average proportions of each position
Diagnosis 61
Prognosis 62
Face presentation . . . 63
Diagnosis . . . 65
Prognosis 66
Average proportion . . . 58
Forehead and Ear presentations. . . 68

CLASS II.—DIFFICULT OR LABORIOUS LABOUR 69
Average proportion . . . 69
Order 1.—Inertia of the uterus . . 70
Causes 71

Class II. continued.

Order 2.—Impediments occasioned by the soft parts 72
Rigidity of os uteri and external parts 73
Oblique position of os uteri . . 73
Preternatural shortness of funis . . 74
Pendulous abdomen . . . 74
Distention of bladder . . . 75
Order 3.—Disproportion between the pelvis and child 75
Management of difficult labours. . 76
Introduction of the CATHETER . . 79
Prognosis in difficult labours . . 81
Remarks on the SECALE CORNUTUM . . 83
Suspended animation in children at birth 85
Treatment 86
Instrumental labour . . 88
Mode of applying the FORCEPS . . 92
Average number of cases requiring their use 103
Impaction or locked head . . 105
The head detained in the uterus when the trunk is expelled . . 107
Head separated from trunk, and remaining 'in utero' 108
Method of applying the forceps in each particular case.
EMBRYOTOMY 110
Evidence as to child's death often fallacious . 118
Average number of cases requiring this operation 120

Induction of Premature Labour . . 121
Sigaultian operation . . . 124
Cæsarean Operation . . . 125

CLASS 3.—PRETERNATURAL LABOUR. 130
Order 1.—Presentation of Breech . . 132
Diagnosis . . 132
Management of . . . 137
Average proportion of breech cases . 140
Prognosis . . . 140
Presentation of feet . . 141
Diagnosis . . . 142
Average proportion of . . 144
Presentation of the knees . . 145
Average proportion of . . 145
Order 2.—Presentation of abdomen, back and side.
Average proportion of . . 145
Presentation of superior extremities . 146
Diagnosis . . 147
Operation of turning . . 149
Difficulties attending it in some cases . 153
Spontaneous evolution . . 157
Prognosis . . . 158
Average proportion of arm presentations 160

CLASS 4.—COMPLEX LABOUR . . 161
Plurality of children . . 161
Average proportion . . 166
Presentation of hand with the head . 167
Average Proportion . . 169

Prolapsus of umbilical cord . . . 169
Average proportion . . . 173
Alarming syncope . . . 173
Rupture of the uterus . . . 174
Diagnosis . . . 176
Prognosis . . . 177
Treatment . . . 178
Average proportion of cases . . 180
Laceration of vagina . . . 181
Sloughing of vagina . . . 182
Laceration of perinæum . . . 183
Rupture of the bladder . . . 186
UTERINE HEMORRHAGE, OR FLOODING . . 186
Prognosis . . . 189
Treatment . . . 190
Flooding at full period of gestation . . 191
Accidental . . . 192
Prognosis . . . 192
Treatment . . . 193
Unavoidable . . . 196
Average proportion of cases . . 197
Prognosis . . . 198
Treatment . . . 199
Hemorrhage from retained placenta . . 204
Transfusion . . . 216
Description of operation . . . 217
PUERPERAL CONVULSIONS . . . 219
Diagnosis . . . 221
Prognosis . . . 222

Treatment 223
Average proportion . . . 226
Inversion of uterus 228
Diagnosis 228
Prognosis 229
Treatment 230
Emphysema of the face and neck . . 231
Œdema and extravasation of blood in the labia . 232
Cicatrices and partial adhesions of the vagina . 233
Excrescences of the os uteri . . 234
Tumors in the vagina and enlargement of ovaries. 234
Enlarged hemorrhoids . . . 235
Hernia 236
Protrusion of bladder . . . 236
GENERAL TREATMENT AFTER DELIVERY . . 237
After pains 238
Slight rupture of perinæum . . 241
Retention of urine . . . 241
Incontinence of urine . . . 242
Fainting 242
Violent shiverings 242
Suppression of lochial discharge . . 243
Inordinate lochial discharge . . 244
Milk fever 244
Retention of small portion of the placenta . 245

MANUAL, &c.

ALTHOUGH it will be naturally supposed that the student has acquired a knowledge of the anatomy of the pelvis, and its contents, previously to his entering on the study of midwifery, yet it may be necessary to bring to his recollection so much of it as is calculated to illustrate the mechanism of labour, and to enable him to perform the different operations which are sometimes required. Without this knowledge, manual or instrumental assistance would be resorted to under circumstances of great disadvantage, attended likewise with no small danger to the patient.

I shall therefore confine myself to those points which more immediately bear upon the subject, commencing with the

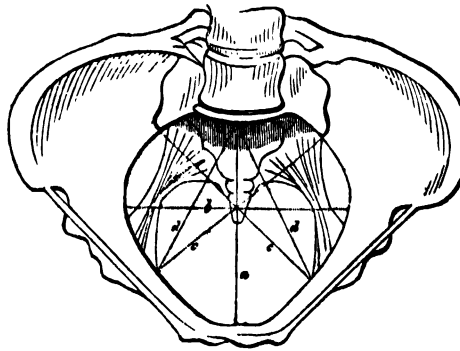
DIMENSIONS OF THE ADULT FEMALE PELVIS.

This part is usually divided, by accoucheurs, into the large, superior, or false; and the small, inferior, or true pelvis; the linea ilio-pectinea being the line of demarcation between them. The larger, or false pelvis, is formed laterally by the expansion of the ossa ilii, and posteriorly by the lumbar vertebræ; the smaller, or true pelvis, comprehends all below the ilio-pectineal line, and is of much greater importance to the obstetric practitioner than the former. The true pelvis is again subdivided into the brim or superior aperture, the cavity, and the outlet or inferior aperture.

The *brim*, or *superior strait*, is formed

by the superior margin of the sacrum, the linea ilio-pectinea, and the superior margins of the ossa pubis; its form is elliptic, oval, or heart-like.

It has three diameters.



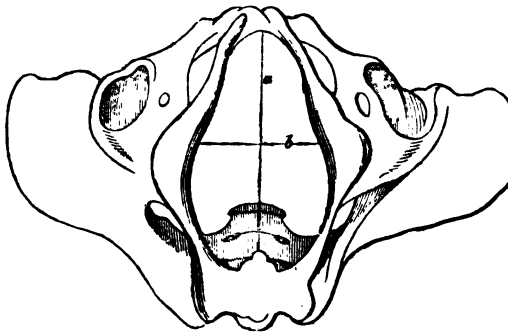
(*a*) The *antero-posterior*, *sacro-pubic* or *conjugate* diameter, extends from the middle of the promontory of the sacrum, to the central and posterior part of the symphysis pubis. It is the shortest of all, and measures in the skeleton about *four*

inches and a half; in the living subject probably not more than *four.*

(*b*) The *transverse, bis-iliac,* or *lateral* diameter, extends from the inferior edge of one iliac fossa to the same point on that of the opposite side, and measures about *five inches and a quarter:* with the psoas and iliac muscles and vessels, it is nearly an inch less.

(*c*) The *oblique* or *long* diameter is denoted by a line drawn from either sacro-iliac-symphysis, to the inner part of the opposite acetabulum. It measures about *five inches and one eighth* without the soft parts, and *four inches and a half* with them.*

* A fourth diameter is given by Velpeau and others, viz. the sacro-cotyloid (*d*).



The *inferior strait*, or *outlet*, is of an irregular, cordiform shape, and formed by the point and edges of the coccyx, the tuberosities of the ischia, the edges of the sacro-ischiatic ligaments, and by the rami of the ischia and pubes. It has *two* diameters.

1st. The *antero-posterior*, or *coccy-pubic*, *(a)* which extends from the lower part of the symphysis pubis to the extremity of the coccyx. It measures *four inches*, but an additional one is gained,

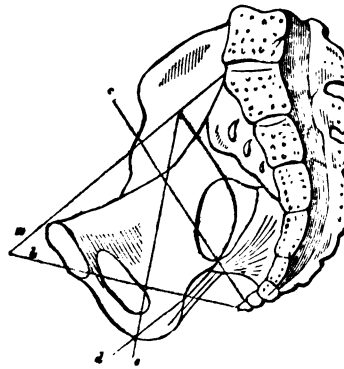
during parturition, by the coccyx being then pushed back; thus it becomes oval in figure, and better adapted to the long diameter of the child's head.

2nd. The *transverse* (*b*) extends from the posterior and internal part of the tuberosity of one ischium, to that of the other, and measures *four* inches.

Thus we observe that the diameters of the outlet are directly opposed to those of the superior aperture.

The *cavity of the pelvis* is of unequal depth. At the posterior part it measures from *four and a half* to *five* inches; at the sides, *three and a half* or *nearly four inches;* and in front, only *one and a half.* We must bear in mind, then, that the depth of the pelvis at its posterior part is more than *three times* that of the anterior; and a recollection of this fact will serve to prevent our being deceived respecting the advance of the child's head, when we feel part of it below the pubes,—for it cannot

be considered as even in the cavity, until it occupies the hollow of the sacrum.



The *axis* of the brim, or *superior strait,* (*c*,) will be represented by a line drawn from the umbilicus to the coccyx: that of the *inferior strait* (*e*) by a line drawn from the orifice of the vagina to a point a little below the promontory of the sacrum; and that of the cavity by a line drawn directly through its centre from

the promontory of the sacrum to the point of the os coccygis. The curved line (*d*) represents the direction followed by the child's head through each axis during labour. The lines *a* and *b*, in the above plate, denote, again, the sacro-pubic and coccy-pubic diameters.

We thus find that the brim of the human pelvis, and its outlet, are not parallel to each other, but are placed at a considerable angle; differing in this particular from that of most of the mammalia, in which the straits of the pelvis have the same axis.

Malformation of the Pelvis.

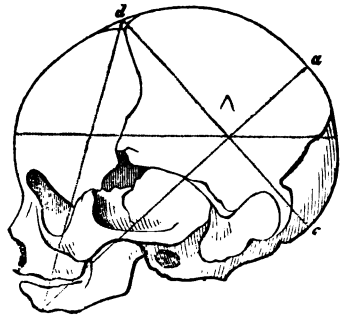
This is one of the greatest sources of difficulty which the accoucheur has to encounter. It may occur at either aperture, or within the cavity; deformity of the superior strait, however, is the most frequent, and generally exists in the antero-

posterior diameter. Out of 37,895 cases, attended in the Maternité of Paris, 541 of which required artificial assistance, 59 were found to depend on some vitiation of the superior strait.

In some misshaped pelves there exists only a space of half-an-inch between the sacrum and pubes; in others, the rami of the pubes and ischia are seen to approximate near to each other; and occasionally, though more rarely, the point of the coccyx is found nearly touching the pubes. These are, of course, extreme cases, and, happily, very seldom occur.

Deformity of the pelvis arises, generally, from rachitis in early youth, from fractures of the pelvis in after life, mollities ossium, caries, &c. The space in the pelvis may be lessened also, and labour complicated, by exostoses of the pelvic bones, or by unnatural growths from the ligaments. Some pelves have their relative capacities too large, though this is not a common fault.

In estimating the dimensions of the pelvis, our continental brethren make use of different pelvimiters, which in this country are seldom, if ever, employed, the fingers of the accoucheur being found to serve all necessary purposes. The sacro-pubic diameter is that which generally requires the greatest attention, and the best means of estimating it, perhaps, is to touch the sacro-vertebral angle with the point of the index finger, introduced per vaginam, its base being pressed against the arch of the pubes: we must then allow two or three lines for the oblique direction of the finger, and the remainder will be about the diameter. Or we may introduce the whole hand, place the point of the forefinger on the sacrum, and press the others against the pubes; thus using them as we would a pair of compasses. The lateral diameter may be estimated in the same manner: considerable practice, however, is required to form an accurate judgment in any case.



Average Dimensions of the Fœtal Head at the Ninth Month.

The head of the fœtus at this period is composed of many bones, which generally overlap each other to some extent during labour, owing to the compression of them by the uterus; and thus, by the diminution of size which the head undergoes, its passage through the pelvis is rendered more easy. This affords an illustration of the care and precision with which Nature

effects her purposes generally, and should teach us not to be too hasty in meddling with her work.

Diameters.—1. The mento-occipital (*a*), denoted by a line drawn from the vertex to the chin, is the longest, and measures from *four and a half* to *five* inches.

2. The occipito-frontal (*b*), extending from the centre of the forehead to the occiput, measures about *four and a half* inches.

3. The occipito-bregmal (*c*) is the most important one, and when measured from near the foramen magnum to the anterior fontanel, is about *three and a half inches* in length.

4. The mento-bregmal (*d*) measures *three and a half inches.*

5. The transverse, or bi-parietal, extends from one parietal protuberance to the other, and measures *three and a half inches.*

The average size of the head in male

infants, at birth, is about one twenty-eighth or one thirtieth larger than in females.

In examining the fœtal head, it is very necessary to be acquainted with the fontanels and sutures, as they serve to denote the positions of the child's head in labour; they ought therefore to be well understood.

The *anterior fontanel*, or *bregma*, is a quadrilateral space at the junction of the frontal and parietal bones, occasioned by imperfect ossification at their upper angles.

The *posterior fontanel* is situated between the occipital and parietal bones: it is of a triangular form, and smaller than the other; but generally distinguished with more ease, owing to the vertex being the most common presentation.

The three sutures which it is most important to recollect, are the *coronal*, running directly across the anterior part of the head; the *sagittal*, placed longitudinally between the two parietal bones, and

which can be frequently traced to the nose in the fœtus; and the *lambdoidal*, formed by the union of the occipital and parietal bones.

On examining the relative diameters of the pelvis and fœtal head, we find that they become admirably adapted to each other throughout the whole process of parturition.

The *shoulders* of the infant measure from four to five inches in width, and the *breech* the same; but both these parts are compressible, and can always pass where the head does.

The length of a full-grown child is generally about eighteen or nineteen inches, and its weight on an average from five to seven pounds; but these, of course, vary in different cases: a child of nine or ten pounds' weight is considered large, and may even occasion difficulty in its birth, though new-born infants have been sometimes known to weigh thirteen or fourteen pounds.

It will be sufficient, now, merely to enumerate the principal points relating to the vagina and uterus.

The vagina is a curved canal, extending from the vulva to the womb, being commonly from four to five inches in length, wider at its uterine extremity than at the external orifice, and is plentifully supplied with blood-vessels, nerves, and absorbents. The opening into it is surrounded by a sphincter muscle, and by a network of arteries and veins, termed *plexus retiformis.* The vagina is lined internally by a mucous membrane, which is continued up into the uterus; its middle coat is muscular and spongy, and at its upper and posterior part it is covered by the peritoneum. It does not join the lips of the os uteri directly, but is attached a little above them, higher behind than before,—thus rendering the posterior lip more distinct than the anterior. This canal is capable of great contraction and dilatation.

On its anterior surface lie the urethra, and neck of the bladder, with which it is closely connected by cellular tissue; posteriorly, the rectum lies attached to it, the separation being termed the recto-vaginal septum. The lining membrane of the vagina is furnished with numerous glandular follicles, that secrete a mucous fluid, by which the passage is well lubricated during parturition.

The uterus is a hollow organ, of a pyriform shape, with its base looking upwards, and its apex depending or hanging in the vagina. It is placed between the rectum and bladder, and is muscular in its structure, though the direction of the fibres is very irregular. It is divided into the *fundus*, *corpus*, *cervix*, and *os uteri*. The posterior part of the uterus is covered by the peritoneum; anteriorly, this membrane only extends over the body and fundus. The uterus is supplied with blood by the spermatic and hypogastric arteries; the

former are distributed principally over the fundus and appendages, the latter on the body and neck. These vessels inosculate freely, and they, as well as the veins, are very much enlarged during the period of pregnancy. The nerves of the uterus are derived from the renal and meso-colic plexus, but the cervix is principally supplied by the sacral. The lymphatics are numerous, and are likewise much enlarged during gestation.

The uterus lies generally in the axis of the superior strait, forming nearly a right angle with that of the vagina; the os tincæ, therefore, looks downwards and backwards, its anterior lip being lower than the posterior.

TERM OF GESTATION.

The usual duration of pregnancy is nine calendar months, averaging about two hundred and seventy-four days. It may, how-

ever, continue for a period of forty-five weeks, or three hundred and fifteen days, if we may credit several seemingly well-authenticated cases.

Except in a few instances, the calculation is involved in great difficulties, that may mislead the practitioner. The longest period that I myself ever knew the term to last was in the case of a lady, whose husband arrived from the continent on September 15th, and owing to urgent business was obliged to leave again on the morning of the 17th, remaining abroad after this for some time. My patient had all the symptoms of pregnancy in October, and her confinement was naturally expected about the 16th of June, but did not take place till the night of July 5th, making a term of two hundred and ninety-three days.

Except in similar cases to this, we seldom have any precise data to reckon on, the cessation of the catamenial discharge, and the period of quickening, both being

liable to much variation. Thus, with respect to the former, it is a well-known fact, that some females continue to have a monthly uterine discharge, not once only, but for two or three successive periods, after impregnation, and in some cases even up to the full term. I attended a lady, not long since, who suffered from a sanguineous discharge, amounting occasionally almost to flooding, until the period of quickening arrived, when it left her: in this instance, it was to her a conclusive sign of pregnancy, as her former gestation had been attended with precisely the same extraordinary circumstance. In another case, the female had been married nine years, and borne four children, yet had never seen any catamenial discharge during all that period, till the *commencement* of her fifth pregnancy, from which, up to the time of quickening, it returned regularly each month.

The date at which the mother is first

sensible of the movements of the child varies considerably likewise, occurring sometimes as early as the third month—at others as late as the sixth. The size of the child is no criterion that it has attained the full period, some being as large and perfect at eight months as others are at nine.

In making our calculations respecting the probable duration of any case of pregnancy, we may as a general rule, however, reckon from a fortnight subsequent to the last menstrual secretion, or from the period of quickening, considering the latter to occur at the mid-term, or four months and a half.

PRECURSORY SYMPTOMS OF LABOUR.

There may generally be observed, for some days, or perhaps for a few hours only, before the commencement of labour, a series of symptoms premonitory of the changes that are about to take place.

These are, a sensible diminution or subsidence of the abdomen, irritation about the rectum and bladder, and an increased mucous discharge from the vagina, which is generally tinged with blood just before or at the time of the setting in of the pains—(this appearance is popularly termed "*a shew.*") The labia are often much tumified, and the female feels more light and comfortable than before. These symptoms vary considerably, however, in different individuals.

Should we, on examination, find the cervix uteri at all elongated in the vagina, hard, firm, and like the nipple, we may be sure that the term of gestation has not been completed. On the contrary, if it be drawn up, difficult to discover, and present a surface nearly level with the body of the uterus itself, we may judge that no long time will elapse before the commencement of labour.

The os uteri may be sufficiently open to admit the point of the finger a mouth or

more before delivery, yet this cannot be considered as a sign of labour having commenced; but if the cervix be effaced and quite level, if pains are coming on at regular intervals, and the membranes be felt tense at each time of their recurrence, we may rest satisfied that the parturient efforts have begun.

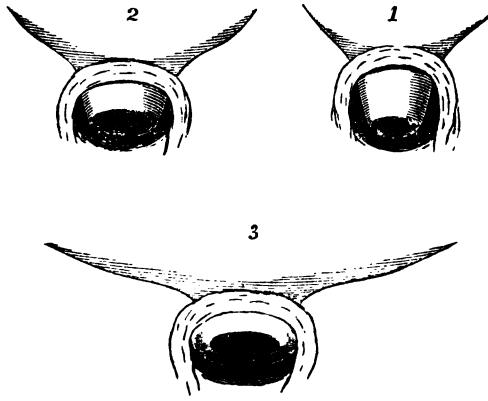


Fig. 1. State of the cervix uteri at the *3rd* month.
2. . . . Ditto . . at the *6th* month.
3. . . . Ditto . . at the *9th* month.

FALSE PAINS.—It is of importance to be able to distinguish the true contractions of the uterus from false or spurious pains. The latter are situated in the bowels or back, and may attack the patient towards the close of gestation. They resemble somewhat those of labour, but are unconnected with uterine action.

The *diagnosis*, though apparently of little import, is in reality of material consequence to the young practitioner; for if he is unable to distinguish between them, he may be detained for many hours with the patient unnecessarily. Many cases are related, in which the medical attendant has waited patiently for several hours, and even days, owing to this mistake, and yet his services were not required for some time after.

Spurious pains generally arise from intestinal irritation; they are much more irregular than labour pains, are unaccompanied by any "shew," or uterine con-

traction, and are felt more at different parts of the abdomen, than in the back. They may be produced also by fatigue, or by slight inflammatory action.

The treatment consists in most cases in giving a laxative, followed by a mild opiate, and in keeping the patient in the horizontal posture. Should plethora, or a slight degree of inflammatory action prove the cause, a small abstraction of blood may be necessary.

ON THE DUTIES OF THE ACCOUCHEUR.

It is a matter of the greatest moment that the accoucheur should attend as early as possible to the summons of his patient, for independently of the occasional speedy and unexpected termination of a natural labour, an early examination may be the means of saving much pain and unnecessary suffering to the female, where, from various circumstances, the case is complicated. Thus for example, a wrong pre-

sentation may be discovered before the rupture of the membranes, which might be rectified at the commencement without much difficulty; but should the liquor amnii be discharged, and the repeated contractile efforts of the uterus bring this organ in close contact with the fœtus, the difficulties might be very materially increased. Besides, the feelings of the patient as well as those of her friends claim consideration. Much anxiety and uneasiness are frequently experienced by them before the arrival of the practitioner, which his appearance immediately dispels.

As soon after as possible, it is advisable to see the nurse, or a married female friend of the patient, first, to make inquiries of her respecting the duration of the labour, the state of the bowels and bladder, and all other particulars of a delicate nature. Our arrival should then be notified to the patient that we may not alarm her by an abrupt appearance, which might have the

effect of arresting the uterine action for a time.

In all our inquiries addressed to her, we should observe that kindness of manner, which every man of proper feeling will consider it his duty to use at such a moment. Except in urgent cases, it is not requisite or proper, especially in first labours, to make an immediate examination, but after the lapse of a reasonable time we may communicate, through the nurse, our wishes on this point, and the necessity of ascertaining the position of the child and the progress the labour may have made,—stating, at the same time, that it is as necessary for the safety of herself and infant, as for the satisfaction of her friends.

This examination is popularly styled "*taking*, or *trying a pain*," and is occasionally in first labours vehemently objected to, but it invariably occurs that as the pains increase in strength the patient herself is most anxious for it.

The *position of the patient* during labour in this country, is on her left side near the edge of the bed, with her knees drawn somewhat up towards the abdomen. This is a more convenient position than that recommended by continental practitioners, viz. on the back, as in an examination, the finger can be more easily directed towards the axis of the superior strait.

EXAMINATION.—This ought always to be made during a pain. The index and middle finger of either hand being anointed with some unctuous substance, are to be passed up so as to enter the orifice of the vagina near the posterior commissure: they are then to be directed to the os uteri, in order to ascertain the following points: viz. whether the patient be actually in labour,—if so, the progress that it has made;—and the nature of the presentation. This examination will also afford

an opportunity of judging of the dimensions of the pelvis.

Existence of labour.—Some of the signs by which this is to be distinguished have been already numerated, (p. 22,) and it is of importance to bear them in mind, as numerous instances are related of young practitioners remaining for many hours in the lying-in chamber after having made an examination, and of their having even specified the presenting part of the child, when, in fact, the patient eventually proved not to be pregnant at all. I know of one instance of this having taken place myself, and, Capuron* mentions a curious case in which, from a wrong diagnosis of the medical attendant, the lady was pronounced to be in labour, the head presenting, and a slight discharge from the vulva was mistaken for the escape of the liquor amnii. M. Capuron being called in after the lapse

* Cours d'accouchemens.

of some time, found not only that the female was not enceinte, but even that from the vulva and vagina being almost imperforate, the nuptial rites could not have been properly consummated. When spasmodic pains, resembling colic, occur at regular intervals, attended by an evident thinning of the margin of the uterine orifice, which gradually enlarges in diameter and takes a circular form, allowing the membranes to protrude, there can be little doubt that they are dependent on parturient action.

The progress of the labour is estimated during the first stage chiefly by the gradual dilatation of the os uteri. It is frequently found at an early period of labour high up in the back part of the pelvis, and in this situation is a common cause of embarrassment to the young practitioner, who, from not discovering it, may mistake the uterus itself for the child's head, and thinking that the

expansion of the os uteri has taken place, may fancy that the labour will be speedily terminated, when, in truth, it has hardly well commenced. This is not an imaginary error, but one of frequent occurrence. The forefinger of the *left* hand is best calculated to discover the os tincæ in this situation. After the dilatation has extended to the diameter of half-a-crown, we can no longer leave the patient without hazard, even in first labours, as in many instances, after this period, the os uteri rapidly enlarges, and the child may be speedily born.

In deciding on the presentation, much difficulty is often experienced by the student, especially before the membranes are ruptured. It is for the most part easily distinguished by the experienced accoucheur, but in making an examination, he has also occasionally some difficulties to contend with, especially if he arrive after the labour has been progressing for any

length of time. Thus I have known a presentation of the vertex in a narrow pelvis, where the scalp was much distended, mistaken for a breech case by a practitioner of some repute; and afterwards, when recognised as a presentation of the head, the swollen and infiltrated scalp was thought to be the unruptured membranes. No labour can continue for a long time, in presentations of the head, especially after the rupture of the membranes, without the scalp being more or less tumified, and thus tending to deceive us. A putrid state of the child may likewise oppose some difficulty in forming our diagnosis. This subject will be fully treated of in describing each distinct presentation.

The difficulty of determining upon the *precise position* of the presenting part is one which practice and experience alone can enable us to overcome. Thus, for example, it is often easy to discover that the

head presents, without knowing what part of it is in contact with the finger; this is in a great measure owing to there being modifications of the usual presentations. It is not even sufficient to know alone the precise part that presents; we should constantly bear in mind the probable position of the child altogether, as well as its relation with the parts of the mother, and recall to memory the axes and diameters of the pelvis, through which it will have to pass. This will enable us, should any unforeseen difficulty arise, to act with decision and promptitude.

The above facts being all satisfactorily ascertained, the fingers are to be gently withdrawn from the vulva, and wiped with a napkin previously placed under the bed clothes for that purpose. In examinations during the first stage, great care must be taken not to rupture the membranes by pressing on them during a pain, and the additional precaution may be used, of keeping the finger-nails close cut.

Examinations ought not to be frequently made in the early period of labour. It is better for the practitioner, after having satisfied himself on the points before mentioned, to remain in another room, visiting the patient only at intervals: this, amongst other advantages, allows her the opportunity of relieving the frequent calls, which the irritability of the rectum and bladder at this period induce.

Both the patient and her friends are naturally anxious to be put in possession of the information which we have gained by the examination, and to know "*if every thing is going on right*." Our communication should be always guarded, though of a nature to inspire confidence; taking care, however, to fix no definite period as to the termination of the labour. This query is not only put to us frequently in a direct manner, but often insidiously, by a species of cross-examination on the part of the patient: we must therefore be careful

not to commit ourselves by giving any decided prognostic as to time. When the case is clear, and uncombined with any untoward circumstance, we may hold out hopes of a favourable issue, and most likely of a speedy one; but, at the same time it must be explained, that this will depend much on the strength and duration of the pains. The former answer gratifies and encourages the patient, whilst the latter tends to prevent disappointment.

Should the presentation of the child be otherwise than natural, it requires great care on the part of the accoucheur to prevent the patient being aware of it, as the knowledge would alarm her, and be otherwise productive of no good. Even the appearance of anxiety on his face will instantly cause a corresponding degree of fear in the minds both of patient and attendants. I of course except those cases in which manual assistance may be required, and those which are likely to be

attended with danger: in the latter, a second opinion should always, if possible, be had recourse to. In both these instances, we should make a point of communicating with the friends; at the same time explaining what is wrong, and the measures we are about to adopt;—our information to the patient need not be so full.

Although a kindness of manner, evincing anxiety for the patient's welfare and comfort, is highly requisite in every obstetric practitioner, still no one, under any circumstances, requires more firmness and decision than he does,—for a few moments may unexpectedly produce such danger and alarm, that whilst every one else is in a state of helplessness from fright, presence of mind and promptitude on his part, especially if they arise from a thorough knowledge of his profession, may be the means of saving a valuable life.

During the second stage, our examina-

tions necessarily become more frequent; in fact, the patient herself generally seems anxious that we should assure ourselves that every thing is proceeding satisfactorily. Our constant attendance at the bedside cannot now be dispensed with, and it is requisite that a pair of scissars, and threads, or two narrow tapes, be placed in readiness for us when the child shall have been born, or it is better for the practitioner to carry with him always what is necessary, in his pocket-case.*

Whilst labour is progressing, a little warm tea, gruel, or barley-water, may be given at intervals to the patient, but unless she become exhausted, it is better to avoid the use of stimulants, such as caudle,

* It is perhaps advisable for the accoucheur, especially in country practice, to be provided with a separate small case, containing, besides the scissars and threads, a catheter, lancet, tracheal pipe, a small bottle of laudanum, and one of powdered secale cornutum.

wine or spirits. The room should be kept well ventilated, and the covering on the patient should be as light as is consistent with comfort. There is no necessity to confine her to the bed during the first stage, nor until the pains become strong and frequent,—for in place of affording rest, it becomes fatiguing to her to lie so long; at the same time we must be cautious not to allow her to remain off the bed after the labour is somewhat advanced, as patients are sometimes unable to stir, owing to pain and terror, when it is most essential that they should be in a recumbent posture.

Towards the end of the labour, care should be taken that the lower parts of the patient's dress are sufficiently out of the way, as, on the birth of the child, much inconvenience may arise from the latter becoming entangled in them.

One female friend and the nurse are the only attendants required in a lying-in

room. The conversation ought to be cheerful, avoiding all reference to danger or to bad cases. The obstetric practitioner should, in his deportment, be as free from levity, as from the opposite extreme, moroseness.

It is as well to fix a sheet or long towel to the opposite bed-post, by which the patient may pull during the forcing pains; and if a firm rest can be given to the feet, it will likewise tend to assist her efforts. When these are expulsive, pressure on the lower part of the back often relieves the patient much; or a bandage may be applied moderately tight round the abdomen, which will afford her support.

Finally, it may be as well for the young practitioner to bear in mind the mode in which the bed should be prepared for labour, as he is occasionally consulted on this point, and a total ignorance of the subject might, especially with the nurse, subject him to the charge of want of knowledge on more essential matters.

A feather-bed should never be used if possible. Many persons use only a leather, or prepared sheep-skin, placed on the mattrass with a draw-sheet over it; but should we be consulted, it will be better to recommend the following method:—"A leather is to be placed on the mattrass where the patient is to lie, and a sheet over it; on these a second leather may be laid with a blanket over it, and another sheet upon the blanket. After delivery, the upper of the two leathers, with the sheet and blanket, are to be removed, and the patient will then have a clean sheet, and ready-made bed to lie on.

OF LABOUR.

Parturition is a natural function of the uterus, by which the fœtus and secundines are expelled at the termination of the ninth month of gestation. When it occurs before the seventh month it is termed *abor-*

tion, and *premature labour* if it takes place any time during the eighth or ninth month.

It is useless to inquire into the *remote causes* of this natural operation, or why it should occur at any specific time. All the researches of physiologists have not produced a better reason than that given by Avicenna, many centuries ago, "*that the appointed time having arrived, labour comes on by the command of God.*"

The *proximate cause* depends upon the contractile efforts of the uterus, aided by the action of the abdominal muscles, and perhaps by that of the diaphragm. The infant itself has nothing to do (actively) with the process.

THE CLASSIFICATION of labours is a matter of little importance, provided each presentation be well described: the more simple it can be made the better, and I would therefore rather have retained only the two classes—*eutocia*, comprising all

spontaneous labours, requiring no manual assistance on the part of the accoucheur; and *dystocia*, embracing all those that require succour, whether by the hand only, or by instruments. As a different arrangement is however followed by English authors in general, I have thought it better to adopt the classification of Dr. Denman, which is not complicated, and has the additional recommendation of being used by Dr. Hamilton, Professor of Midwifery in the University of Edinburgh, in his excellent lectures, viz.

1. NATURAL.
2. DIFFICULT, OR LABORIOUS.
3. PRETERNATURAL.
4. ANOMALOUS, OR COMPLEX.

CLASS I.—NATURAL LABOUR.

Every labour in which the process is completed within twenty-four hours, the

head of the child presenting, and no adventitious assistance being required, is denominated a natural labour. It is subdivided into three periods or *stages.*

The first comprises the dilatation of the os uteri, the rupture of the membranes, and the discharge of the liquor amnii.

The second, the descent of the child, dilatation of the external parts, and expulsion of the child.

The third, the separation and expulsion, or extraction of the placenta.

The period of utero-gestation being completed, the female, after certain premonitory symptoms already described, is attacked by slight pains either in the lower part of the back or loins, or abdomen, or in both. They at first are not of long duration, but come on at regular intervals, which gradually become shorter as the pains increase in strength. These are caused by the dilatation of the os uteri, and are termed the *grinding* or *cutting* pains.

The membranes, or bag containing the liquor amnii may be felt at each pain, tense, and gradually protruding, but again becoming flaccid, and retiring after the pain ceases. Great care should be taken not to rupture them, as such a proceeding will, in most instances, procrastinate the expulsion of the fœtus. If after the pain we can feel through the membranes a round hard substance, we may judge *à priori* that it is the head; but more minute examination must be had recourse to, as the breech will, under certain circumstances, present the same general characters. As the os uteri dilates and the pains increase, the membranes descend and become more tense, till at length being unable to further resist, they suddenly burst, and a discharge of liquor amnii to a greater or less extent takes place. Rigors and sickness, which are not regarded as unfavourable symptoms, generally attend this stage.

The descent of the child constitutes the *second* stage, and occupies a period quite as uncertain as the former, especially in first labours. The pains having recurred after a short interval, and increased in intensity, now become of a more expulsive character and are accompanied by audible expressions of the patient's suffering of a very different description from those which characterized the *first* stage; so much so, indeed, that an experienced practitioner can, on entering the room, frequently tell, from them alone, how far the labour is advanced. The head sliding along the hollow of the sacrum, at length presses on the perinæum, and then commences the real necessity for the aid of the accoucheur, which consists in supporting this part, by pressing moderately against it with the hollow of the hand during each pain, in order to prevent any rupture taking place, as from the continued and increasing distention, it frequently becomes

as thin as writing paper. Violent cramps are frequently felt at this time, owing to the pressure of the child's head on the obturator and sciatic nerves. In an advanced stage of labour the patient often expresses a strong desire to go to the night table, owing to a supposed necessity: this is occasioned by the pressure of the child irritating the rectum. We must at such a time point out to her the cause of this sensation, and induce her to remain quiet. I have met with two cases in which the child was absolutely born in the close-stool, owing to the patient having removed thither, and been unable to return to the bed, from the sudden and violent pains which had followed.*

The occiput escapes at length from under the arch of the pubes, and is gradually followed by the rest of the head,

* It may be of importance to remember this fact, in giving evidence in some cases of alleged infanticide.

the expulsion of which, owing to the soft parts of the patient being put to the utmost stretch, creates the most agonizing pain; but as soon as this is accomplished the greatest relief is experienced. One or two slighter pains afterwards, usually suffice to complete the birth of the child, but no exertion should be used on our part to hasten this, beyond supporting the body of the infant; it is better, with very few exceptions, to leave the expulsion of it to the natural efforts.

As soon as the head is disengaged, we should pass our fingers round the neck, in order to discover whether the latter be encircled by the funis, which is frequently coiled round it once or twice, and if so, it should be drawn over the head so as to prevent suffocation. For the same reason, care must be taken not to allow the child's face to lie downwards, or in the fluids collected sometimes at this part of the bed.

The child is now to be withdrawn carefully a short distance from the mother, to enable us to see that part of the umbilical cord nearest to the abdomen, but without the least exposure of the patient. The first ligature should be placed on it about two inches from the navel, and tied tightly for fear of after hemorrhage; the blood is then to be pressed back in the cord, and another ligature applied about an inch or two nearer to the placenta. The cord is divided by the scissars between these two points, taking great care not to include, in the hurry of the moment, any other part in the division, as instances are related of a finger, a toe, or even the penis, having been removed through carelessness. The child is then to be rolled up in a flannel receiver, having had a flannel cap previously put on its head, and handed over to the care of the nurse.

Our next duty should be to pass the hand over the abdomen of the patient

in order to discover whether there may not be another child. If the uterus still remains distended and hard, there is reason to suspect the existence either of another fœtus, or of internal hemorrhage; and to clear up this point, a further examination per vaginam must be made; but if the womb be felt, through the parieties of the abdomen, contracted like a round hard ball, about the size of a child's head, we may rest satisfied that there is not another infant.

Having allowed the patient to remain undisturbed for the space of ten or fifteen minutes, should the placenta not have come away, and no pains have been felt, we should endeavour to ascertain whether it has separated itself from its connexion with the uterus. This may be done by passing the fore-finger up along the cord, towards its insertion into the placenta; if this latter can be distinctly felt, we may be certain of its being loosen-

ed, and proceed to draw it gently and carefully down in the proper axis. If, from its size, any difficulty should be experienced, we may facilitate its extraction by hooking two fingers into its substance, and thus aid its descent.

But should the placenta be not felt in the vagina, and no pains occur, gentle frictions over the abdomen should be employed, and in a short time they will perhaps return, and the placenta be disengaged.

Great care should be taken that none of the membranes be left behind. They should be coiled up by turning the placenta round once or twice, which will prevent their breaking, and enable us to bring them properly away. When withdrawn, the whole should be deposited in an utensil, and it will be as well in all cases to examine it carefully "pro formâ," as much importance is often attached to its inspection by the attendants.

A warm napkin is now to be applied to the vulva and another below the hips. I generally make it a rule at this time to pass a bandage round the patient's abdomen, sufficiently tight to afford her a feeling of support. She may then be covered up properly with the clothes, and left to rest for half-an-hour longer, but in cases attended with hemorrhage the patient should not be moved for some hours, as it might else be reproduced. In all instances it will be advisable to see her again, to examine the abdomen and feel the pulse before taking our leave, for cases have occurred in which practitioners have for want of this precaution left a patient quiet and apparently doing well, but who had in reality fainted from hemorrhage, and was beyond the assistance of art before the melancholy fact had been discovered.

Remarks.—The foregoing description comprehends all the important phenomena that usually occur in a *natural labour.*

The average number of cases that require no manual assistance is about forty-nine in fifty. To be classed as such, it is necessary, *on the part of the mother,* "that the pelvis should not be distorted, nor the soft parts present any great obstruction, such as might arise from tumours &c.,—that the uterus should exert a proper and sufficient action,—and that no flooding or convulsions should accompany it; *on the part of the child,* that it should present by the vertex, and that its size should not be disproportionate to that of the pelvis. Although twenty-four hours mark the limits for the termination of natural labour, the great proportion of cases do not occupy so long a time. Thus out of five hundred cases given by Dr. Merriman,* two hundred and one terminated within six hours,—one hundred and ninety-two within twelve hours,—seventy-four in

* Synopsis of difficult Parturition.

eighteen hours,—whilst only twenty-eight occupied the twenty-four hours.

As a general rule, the later the membranes break, the better it is for the progress of the labour. In a very small number of cases, they may, however, require to be ruptured on account of their thickness and rigidity preventing the proper advance of the child: occasionally it happens that they do not burst until the child's head is on the point of being expelled. At other times, a band or portion of the os uteri, generally towards the pubes, may become swollen, owing to pressure between the head and the pelvis, and increase the pain, at the same time impeding the descent of the child. It may be pressed gently up with two fingers during a pain, and the obstacle thus removed, the head coming down in most cases on the perinæum directly after.

The abdominal muscles are called into action during the second stage of labour,

and aid powerfully in the expulsion of the child. The forcing so common at this period is not voluntary altogether, but it appears as if the patient were compelled to exert herself: during the first stage, the same impulse does not exist, and every voluntary effort should then be repressed, as it only exhausts the patient's strength, notwithstanding which, an ignorant nurse often exhorts the patient to hold her breath and aid herself by bearing down,—advice calculated to do much harm, as the os uteri is, in fact, not dilated fully at this period.

When the perinæum is placed on the stretch, we must be careful not to remove the necessary support from it, even for a moment, especially whilst the uterus is acting, lest irreparable injury occur to the part

If the child do not cry as soon as it is born, or shortly after, and if the circulation in the cord be weak, we ought not

to place the ligatures on it for a few minutes.

In fine, the principal points that require the attention of the obstetric practitioner during a natural labour, are, *to support the perinæum most carefully*, and, *to be very cautious in extracting the placenta.* The reasons for these precautions will be more fully detailed hereafter.

The above plate displays the usual position of the child's head at the brim of the pelvis, before commencing its descent. (*a*) section of the pubes; (*b*) the os uteri; (*c*) the vagina; (*d*) section of bladder; (*e*) the anus.

POSITIONS OF THE HEAD, THE VERTEX PRESENTING.

These are four, viz.

1. The *occiput* may be situated *forward* and *to the left*, resting against the inner part of the acetabulum, the face being towards the right sacro-iliac synchondrosis.

2. The occiput *forward* and *to the right*, the face being towards the left sacro-iliac synchondrosis.

3. The occiput directed *backward* and *to the right*, with the face towards the pubes.

4. The occiput *backward* and *to the left*.

First position.—In this presentation the

sagittal suture corresponds with the oblique diameter of the pelvis. The posterior fontanel lies forward, and the anterior one at the back part of the pelvis. The contractions of the uterus force down the occiput under the arch of the pubes, whilst the chin is pressed on the sternum, and the central part of the sagittal suture is directed nearly in the axis of the brim, thus rendering the passage of the head more easy.

As it escapes, the occiput is turned towards the inner part of the mother's *left* thigh, and the shoulders soon follow, the right one being placed behind the symphysis pubis, the left in the hollow of the sacrum. ***This is the most common position of the head.***

Out of 14,677 vertex presentations, 11,634 were in this position. (Lachapelle.*)

In 2,947 vertex presentations, 2,735 were in this position. (Merriman.†)

* Pratique des Accouchemens. † Op. citat.

Natural Presentation of the Child at a later stage.

The second position is the next most common. The mechanism of labour takes place almost exactly as in the former; but in escaping, the occiput is turned towards the right thigh.

In 14,677 cases, 2853. (Lachapelle.)

The third position.—In this the *posterior fontanel* is depressed in the *cavity of the sacrum*, whilst the anterior rises towards the symphysis pubis. In the passage of the head, the occiput is forced towards the perinæum, whilst the forehead is under the arch of the pubes, which gives it a support, and thus assists the expulsion of the occiput first, it being on its exit turned towards the inner part of the right thigh, the face upwards, and the *left* shoulder under the arch of the pubes, whilst the *right* is placed posteriorly.

112 in 14,677, according to Lachapelle.
44 in 2,947, according to Merriman.

The fourth position.—Here the *posterior fontanel* is situated *backwards* and to the *right* side, and the anterior forward and to the left. The mechanism is the same as in the third position; the occiput, by a rotatory motion, descends into the hollow of the sacrum, whilst the forehead rises

towards the symphysis pubis and passes under it, the occiput then projecting forward and turning towards the left thigh.

78 in 14,677—Lachapelle.

The third and fourth positions generally cause the head to be longer in passing through the pelvis than the two first, and we require to be exceedingly careful of the perinæum, as it is subjected to a much greater degree of pressure, and that more irregularly than in a natural case.

The head very seldom presents in the *direct* antero-posterior position as regards the pubes and sacrum. Madame Boivin* found it *six* times only in 20,517 labours, and Madame Lachapelle had never observed it once for certain in 36,000 cases.

Several other intermediate positions, or deviations from the foregoing, might be enumerated, and, in fact, are by some authors, but the distinction leads to no practical benefit.

* Mémorial de l'Art des Accouchemens.

Position of the Face towards the Pubes.

In the four positions of the head just described, we require merely to watch and superintend the operations of nature in the majority of cases; but should untoward

symptoms, such as hemorrhage or convulsions, accompany them, we may be obliged to have recourse, either to the operation of turning, or to the use of instruments.

Diagnosis.—In forming an opinion as to what precise part of the head presents, we are principally guided by the examination of the bones, sutures, and fontanels. We first assure ourselves that it is some part of the head which presents, by the round hard substance that is felt. As points serving to guide us in reference to the position of the head, we may recollect that the anterior fontanel is of a quadrangular shape, and larger than the posterior, that the latter is triangular in its form, and the lambdoidal suture which enters into its formation may be recognised by the sharp angle which it presents. In the partial overlapping of the bones which takes place during labour, the occipital bone is usually more pressed under the

parietal than the frontal is. If we can distinguish either ear of the child, it will serve as a still better guide, as to the exact situation of the head.

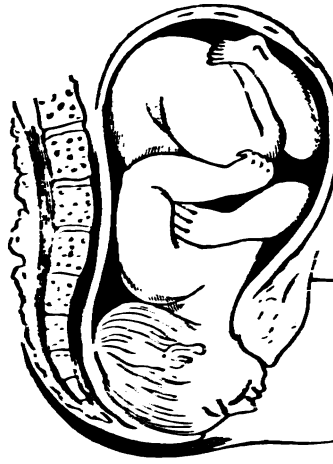
Prognosis.—This will depend principally upon the relative proportions of the pelvis and head. As it has been already remarked, the great majority of cases terminate favourably; but, still, unforeseen accidents may sometimes arise Rupture of the perinæum is that perhaps most to be feared, especially when the face is directed towards the pubes. Inertia of the uterus, which is a frequent cause of lingering labours, is more likely to attend the third and fourth positions than the other two, and the severe and long-continued pressure of the child's head on the soft parts of the mother may, if not removed in time, cause sloughing and urinary fistulæ. On this account the lever, forceps, and even the perforator, may sometimes be required.

In regard to the safety of *the child*; according to the computation of Dugès,* thirty are born alive out of thirty-one, in vertex presentations.

FACE PRESENTATION.

Although this position has been described by some authors as requiring the operation of turning, or the use of instruments, it is now generally, and very properly, left to the resources of nature, when there is sufficient capacity in the pelvis, and is even retained by Denman,† and some other authors, in the class of natural labours.

* Manuel d'Obstétrique. † Aphorisms.



Presentation of the Face in an advanced stage: its most usual position, viz. the chin towards the pubes.

The face may present in two positions.

1. To the *right* acetabulum.
2. To the *left* acetabulum.

It very seldom presents *directly* to the pubes or sacrum.

In both the positions above mentioned, the forehead is gradually carried into the hollow of the sacrum; as the face approaches the external parts, the chin protrudes under the arch of the pubes, and rests against it, while the forehead and vertex bear strongly on the perinæum. This part is very much stretched in the above presentation, and must be carefully protected.

Diagnosis.—This is sometimes easy, at others very difficult, especially before the rupture of the membranes, or even at an advanced period of the labour when the face has become much tumefied. The nose, which is the most positive indication, not only of the face but of its position, is here almost lost in the general swelling. Many practitioners have been deceived in these cases, and even Smellie* admits that he once mistook this presentation for that of the breech. The characters denoting

* Treatise on Midwifery.

the presentation of the face are,—the orifice of the mouth, inside of which the hard gums may be felt, sufficient to point out the distinction between it and the anus in a breech case,—the hard outlines of the orbits,—and in some cases the nostrils.

If we discover this position whilst the head is at the superior strait, we may be justified, perhaps, in attempting to remedy it, either by placing two fingers on the forehead, and trying to push the chin towards the chest, or by endeavouring to bring down the occiput. Usually, however, it is happily terminated by nature alone, the use of the forceps or crotchet being seldom required, though the labour is frequently tedious, especially when the chin presents towards the sacrum, a case very rarely occurring.

The *prognosis* is not so unfavourable as it was formerly thought to be. Out of seventy-two cases, forty-one were delivered without assistance, and without danger

either to the mother or child (Lachapelle.) Chevreul*, out of eighteen cases, had fifteen children born alive, and Dugès even gives the proportion as eighteen out of twenty-one. The greatest risk to the child, in these cases, arises from the compression on its neck, which may cause cerebral congestion. We should always inform the friends, that if the child be born alive, its face will be very much swollen, and of a dark colour, presenting a disagreeable appearance, but that this will pass off in the course of three or four days, with the aid of stimulating lotions, &c. If the face presents transversely, and especially if the patient has already borne children, we may hope that the child will be born alive. Should it after birth show any symptoms of approaching convulsions, such as stertorous respiration, dilated pupil, &c. an ounce or two of blood may be allowed to escape from the umbilical cord,

* Précis de l'Art des Accouchemens.

according to the size or strength of the child.

This presentation is not an unfrequent one—1 in 217 cases, (Lachapelle,) 1 in 294, (Merriman,) and 1 in 296½, (Baudelocque.* Out of 2,070 cases occurring within the last four and a half years in the practice of the parochial infirmary to which I am attached, and in private practice, 7 cases have been face presentations, or 1 in 295½.

Should the use of the forceps be required, greater care is necessary to guard against lacerating the perinæum than even in cases of vertex presentation. As retention of urine is liable to take place, owing to pressure on the neck of the bladder, care must be taken that this organ is not in a state of distention, and the catheter should therefore be introduced.

FOREHEAD and EAR presentations generally resolve themselves into those of the

* L'Art des Accouchemens.

face or vertex, and on this account require no particular description.

CLASS II.—DIFFICULT OR LABORIOUS LABOURS.

Under this head is included every labour in which the process is prolonged beyond twenty-four hours, the head of the child presenting.

Tedious labours occur, on an average, about once in thirty times, and are perhaps the most embarrassing of any to young practitioners, as the patient and attendants often become uneasy, and he is himself anxious, and tired by a long attendance, during which little can be done, unless, indeed, the difficulties are of such an extent as to require instrumental assistance. They progress with extreme slowness, continuing sometimes for two, three, or four days, and even longer, without much perceptible advance being made.

These cases require judicious management, great patience, and kindness of manner, on the part of the accoucheur, and a determination to avoid all officious interference with the effective though tardy operations of nature: meddlesome midwifery is bad, and by it the difficulties will be increased, and danger perhaps incurred.

Lingering labours depend either on *diminished action* of the uterus, or on *increased resistance* in the passages, or sometimes on a combination of both.

ORDER I.

Inertia of the Uterus.—This may be produced by over-distention, arising from an excessive secretion of the liquor amnii, though the too early evacuation of the fluid is a much more common cause. On this account we should be very careful not to rupture the membranes, unless there is

good reason to think that over-distention really does exist. Inertia may likewise result from the presence of twins, or from internal hemorrhage. When there is feebleness, or absence of uterine contractions, we should repress any voluntary efforts of the patient, as they can be of no service, unaided, and are at best merely secondary.

Early escape of the liquor amnii, by premature rupture of the membranes, owing either to accidental circumstances, or to mismanagement in examining too roughly the os uteri, is one of the most frequent causes of this affection. It has too often happened that practitioners, who from anxiety to terminate a case and attend to other engagements, have endeavoured to expedite a case by this foolish proceeding, have been detained a much longer time than they otherwise would have been, and have caused much increase of pain and suffering to the patients.

Emotions of the mind materially influ-

ence the action of the uterus. The arrival of the accoucheur, especially if a stranger, will often, like that of the dentist in a case of tooth-ache, occasion a suspension of all pain. This cessation lasts only for a short time in the generality of cases, but will point out the prudence of not entering the lying-in chamber abruptly. It is also important to prevent any conversation relating to melancholy or fatal results in other cases.

General debility will in some instances operate as a cause in repressing the proper action of the womb; we sometimes observe, however, that patients far advanced in phthisis pulmonalis, or other debilitating and fatal complaints, have tolerably quick labours.

Plethora will occasionally produce feeble action of the uterine fibres.

ORDER II.

Rigidity of the os uteri and *external*

parts often gives rise to protracted labour. It is more liable to occur during first labours even in the youngest subjects; and I agree with Madame Lachapelle in thinking that we are apt to estimate the difficulties attending the first labour of a female somewhat advanced in years, too highly. From what experience I have had, I should state that there is little difference in this respect between them and younger patients.

The os uteri is sometimes tumid and œdematous, at others hard and schirrous, —so much so, indeed, as to have occasionally required an incision to be made into it, in order to rectify this impediment.

An *oblique position* of the os uteri towards the sacrum, especially if it incline beyond the axis of the superior strait of the pelvis, is attended by great tediousness in the labour, and may not be discovered

without a careful examination: the inclination is very seldom towards the pubes.

Dr. Hamilton* used to mention three cases that he had seen, in which the patients died undelivered, owing to *large accumulation of fæces in the rectum.*

When the child has been dead for any length of time, its *abdomen distended with gas* will often prove an impediment, owing to its great size; in this case it should be punctured. Dr. Merriman relates two instances of the occurrence of ruptured vagina, owing to the midwives roughly dragging the child so swollen through the passage;—in both cases the patients died.

Preternatural shortness of the funis is cited by some authors as a cause, but is denied by others. *A pendulous abdomen* may certainly act as sufficient cause. To such an extent does this exist in some cases, that whilst the pregnant female is

* Oral Lectures.

sitting, the uterus and its contents are resting on her knees.

Distension of the bladder.—In all protracted labours we should carefully examine the state of the bladder, as, if it be allowed to remain unemptied, it may give rise not only to much delay, but often to great danger.

ORDER III.

Disproportion between the pelvis and child will interfere materially with labour. When this deviation is not to great extent, we may trust to the efforts of nature, as the head will be moulded gradually to the passages, by the compression and overlapping of its bones, the cranium being much elongated. If difficulty arise from malposition of the head of the child, we must endeavour to rectify it.

From either of the foregoing causes, the uterus may lose its proper degree of irri-

tability, and its expulsive force be thus diminished, or for a time lost, protracting the labour far beyond its usual term. This state may occur at the commencement of the process, the pains being feeble from the first, with a long interval between them; or, after having been active and sharp during the first part of labour, they may gradually die away, or come on only occasionally.

Treatment.—The practitioner will be frequently urged, both by the patient and her friends, to do something to assist her, but he must not allow himself to be drawn away from the proper line of duty required, either by their entreaties, or by a selfish feeling as regards his own time. Some females always have these lingering labours, and after the first confinement do not feel so impatient or alarmed.

The patient should be encouraged, and an explanation be given, that though tedious, the labour is unaccompanied by

danger. She should be kept cool, have light nourishment, and be occasionally allowed to change her position. Sometimes, when the pains are weak and ineffectual, a dose of twenty or thirty drops of vin. opii will suspend them for a time, after which they become more energetic. Enemeta of warm water I have often found of much service in the first stage. Frictions of the abdomen, stimulating enemeta, vapour baths, &c., are recommended by some authors.

Should the parts have lost their natural moisture, pomatum or lard may be freely applied about the os uteri and vagina with benefit.

If there be rigidity of the os uteri accompanied by feverish symptoms, a tolerably free venesection will be of much service, admitting that the patient possess sufficient strength to allow of it; fomentations also may be used,—opiate injections may be administered per anum,—

and extract of belladonna be applied to the os uteri. When this orifice is situated in too oblique a position, it is recommended that the patient should recline on her back during the labour, and the evil may be remedied as far as possible by inserting two fingers into the os uteri during the pains, and trying gently to draw it forward. When the abdomen is pendulous, the patient should lie on her back and have a bandage applied so as to act as a support to her.

If the bladder be distended, a catheter ought to be passed in order to evacuate its contents. This in most cases is not a difficult operation, but is occasionally attended with some trouble, as the urethra becomes elongated and more curved than usual, owing to the bladder being drawn away by its attachments to the uterus. From want of practice also, the operation is often performed awkwardly.

INTRODUCTION OF THE CATHETER.

The patient lies on her back, raising and separating her knees at the same time. The accoucheur standing on her right side, passes his left hand under the clothes and along the abdomen, whilst with the index finger separating the labia and nymphæ, he discovers the clitoris. About an inch below this, is felt a small round eminence, *the orifice of the urethra*, lying nearly four lines above that of the vagina. The finger is kept upon this, while the right hand holding the catheter previously oiled, is passed under the right thigh and directs the point of the instrument into the urethra, the finger of the left hand serving to guide it. It has been recommended that a moistened bladder should be attached to the free end of the catheter, the stilette being previously withdrawn, in order that the bed may not be made uncomfortable by the escape of

urine, as is frequently the case when a common utensil is used to receive it. A catheter has likewise been invented with a bulb which screws on, and serves the same purpose.

This operation may be performed with the greatest delicacy, no exposure being requisite. The instrument should be passed upwards and forwards in ordinary cases, but when either procidentia or inversio uteri exists, the handle will require to be elevated towards the abdomen on reaching the symphysis pubis, so that the point should be directed towards the knees, the bladder being at the anterior part under the arch of the pubes. In some other instances, the bladder is thrown forward over the pubes, so as to curve the urethra in that direction: here the handle must be depressed as soon as the extremity has cleared the symphysis. Occasionally a small *male* catheter is required.

In the class of labours just described,

should the case progress at all, however slowly, so that there be regular uterine pains, sufficient strength left to the patient, a good pulse, and no fever, nature will most likely gradually accomplish the delivery. Should, however, unfavourable symptoms supervene such as complete cessation of uterine action, severe rigors, fever, vomiting, anxiety, and depression of countenance, restlessness, cerebral affection, tenderness of the abdomen on pressure, weak pulse, and clamminess of skin, we have to apprehend much danger, and must have recourse to immediate delivery either by the forceps, or by the operation of craniotomy, according as the case may require.

Prognosis—Several melancholy results are likely to follow a tedious and laborious labour. It may in the first place give rise to hemorrhage or exhaustion, or, from long continued pressure, the soft parts may become inflamed and gangren-

ous, especially should the bladder be distended, and much pressed on. Under such circumstances the parts may slough, and the lamentable occurrence of a vesico-vaginal fistula be the consequence. Dr. Hamilton used to relate a case in which not only the vagina, but even the muscles of the pelvis were in a state of gangrene owing to violent pressure on them. The approach of this inflammatory state may often be distinguished by the swollen state and great tenderness to the touch of those parts which lie just under the head of the child.

From the long-continued pressure on the bladder, *incontinence of urine* remains for a time after labour, and may prove a very serious inconvenience. *Retention of urine* also is not an unfrequent occurrence, and may require the daily use of the catheter for a week or longer.

Stimulants or cordials should as a general rule be avoided during labour, but when

the patient is very languid, and complains much of faintness, a little wine or brandy and water may be allowed with a view to revive her strength, and excite the uterus to contract. The most efficacious remedy, however, in cases where the contractile efforts of the uterus have gradually diminished or disappeared, is,

THE SECALE CORNUTUM, OR ERGOT OF RYE,

This medicine may be given with advantage when the os uteri is fully dilated, the passage sufficiently capacious, the child's head in a proper position, and no rigidity of the parts existing. The ergot of rye was made use of by the country midwives in Germany so far back as the year 1668 in lingering labours, and at length attracted the attention of scientific obstetricians. Its efficacy in expediting labour has been denied by several authors of repute, but from my own observation I feel assured of

its certain good effects when properly and not indiscriminately employed. It should be given in fine powder mixed with sugar and boiling water, allowing the infusion to stand for a short time, and taking care that no sediment be left at the bottom of the cup when given to the patient. Half a drachm is the dose I have usually given, to be repeated in half an hour if necessary: its effects generally appear in about ten or fifteen minutes after its exhibition. I have not found it of use in cases of retained placenta; on the contrary, I have in several other instances observed that after its employment the placenta has been retained, causing me to suspect that an irregular action of the uterine fibres had been the result of its administration. In after-hemorrhages it is certainly beneficial, conjoined with other means. It is requisite to be careful in selecting the ergot, which should be powdered and kept in a well-closed phial. I have found it of much

service in menorrhagia and leucorrhea, and consider it altogether as a very valuable instrument in the hands of the accoucheur. Time and patience, however, it must be always remembered, are to be most relied on in simple lingering labours.

Suspended animation in Children at birth.

The child is sometimes, (especially in long-protracted labours,) incapable of manifesting symptoms of vitality either by moving or crying, and is apparently still-born:—long continued compression on the brain or umbilical cord is the ordinary cause of this asphyxia.

Instead of putting the child aside as dead, we are bound to use every endeavour to resuscitate it, unless from circumstances we are certain that the circulation of the umbilical cord has been extinct for any considerable time. Many instances have occurred in which the laudable exertions of the practitioner have

been continued for one or even two hours, and have ultimately been crowned with success.

A small tub, or pan, containing water of a temperature as hot as the hand can comfortably bear, should be brought to the bedside, and the child should be immersed in it up to the neck as soon as possible. If the placenta be still attached to the uterus, the umbilical cord should not yet be divided, but if it have descended into the vagina, this precaution can be of no use. The body of the child is to be well rubbed by the hand, over the spine and region of the heart with a little spirit until the warm bath is ready.

Should these means not prove effectual in a short time, the *tracheal pipe* should be introduced. This is a small silver tube resembling somewhat a catheter, closed at the end but having a fissure on each side to give free ingress and exit to the air. In order to introduce this instrument into the

trachea, the forefinger of the left hand is to be passed over the root of the tongue till it reach the rima glottidis; the tube held in the right hand is then to be carried down guided by the finger till it glide into the opening. The removal afterwards of the finger must be cautiously effected, lest the instrument should be shifted by this action. The operator now blows through the tube so as to inflate the lungs of the child, and when this is done to a moderate extent, an assistant presses on the chest and abdomen with both hands in order to gently empty them again; these actions are to be alternated so as to allow about twenty-five or thirty of these artificial respirations in a minute. The umbilical cord should occasionally be felt *near the abdomen*, for if the child is to recover, we shall at length feel a slight pulsation in it, gradually increasing in strength; a short quivering motion of the facial muscles follows, repeated at intervals, the child

gives a short sigh which is perhaps not heard again for a few seconds,—gradually it becomes more frequent, and eventually the infant cries out: till this takes places it is not safe to remit our exertions, as the asphyxia frequently recurs when this precaution is not attended to.

A small quantity of warm brandy and water may be introduced into the stomach in some cases, by shifting the tube from the trachea to the œsophagus, taking care to cleanse it, however, before re-introducing it into the trachea.

INSTRUMENTAL LABOUR.

In some cases, labour makes no advance whatever, either owing to inertia of the uterus, or to some obstacle presented by the pelvis or child's head. Delay after a certain time in these instances may verge into procrastination, and as the patient's strength becomes exhausted by her fruitless efforts, she, as well as the child, may

be lost for the want of timely assistance. Some other causes also may induce the necessity for the use of instruments, such as the presence of flooding, convulsions, &c. No certain rules can be laid down, as to the precise time which should be allowed to elapse, before we have recourse to their use, the best authorities differing widely on this point; it must be left principally to the careful reflection and judgment of the practitioner, who must be influenced by the peculiar circumstances of the case, bearing in mind, however, that patience is in most of these cases to be preferred to premature determination. There is more difficulty in deciding upon the *precise time* when instruments should be applied, than in the application itself. When deformity of the pelvis is present, it is advisable that junior practitioners should not use them alone, but fortify their opinion by the concurrence of some more experienced obstetrician.

The intention in the use of instruments is,

1. To preserve the lives both of mother and child.

2. To preserve the life of the mother alone, when it is found impossible to save that of the child.

The instruments adapted to the relief of the mother and for the probable safety of the child, are the *forceps* and *lever*, although the latter is now not often used. They are never to be employed clandestinely. We should inform both the patient and her friends of our intention, explaining to them the urgent necessity for using them, and their simplicity of action, (they being in fact mere auxiliaries to the hands, the blades supplying the deficient length of our fingers for the purpose,) and instead of making any mystery on the subject, we may even shew them, that it may be fully seen that they are not cutting instruments. Some celebrated accoucheurs have made a

point even, *never* to use them without shewing them to the patient first, by which proceeding they have thought she would be more reconciled to their employment. Instead, however, of always meeting with repugnance on the part of the patient to the use of instruments, we have occasionally in lingering cases to withstand her urgent entreaties to use them.

The lower the head of the child has descended, the easier will be the application of the forceps in most cases; still the tumefaction of the soft parts, arising from the long-continned pressure on them, may somewhat increase the difficulty. The blades at their most curved part should not approach nearer to each other than three inches, as the foetal head cannot be pressed to a less diameter with safety. The pelvis therefore must at least measure this space in its conjugate diameter to allow of the employment of the forceps. A general rule recommended by many authors is

" not to apply the forceps until the ear has been distinctly felt for six hours: and we shall be most likely to distinguish it under the pubes, or one of the rami of the ischia, as the ears are not directed towards the sides of the pelvis until the occiput has partly emerged from under the arch of the pubes. The short forceps are only applicable with advantage when the head occupies the lower strait. Especial care should be taken to evacuate both the bowels and bladder before using them, and the os uteri and passages should be in a thoroughly relaxed state.

Mode of applying the Forceps.—In this country the patient lies exactly in the same position as that common in labour, viz. on her left side, but with the hips placed close to the side of the bed. The blades of the instrument should be placed in warm water for a short time, and then smeared with lard or pomatum, and laid in a convenient situation for the operator,

who carrying the index and middle fingers of the right hand towards the ear of the child, introduces the right blade, and directs it slowly and cautiously along them, till it reach that part. If it meet with any obstacle, no force should be used, but it should be withdrawn a little, and again tried, the operator keeping the blade close to the head of the child by raising the handle somewhat, lest it should include some part of the uterus. On reaching the ear, it is advisable, however, to depress the handle again so as to free the blade from the obstruction, and then pass it over this part. The first blade should now be kept steadily in its position as a guide to the application of the second, which is to be passed along the fore and middle fingers of the left hand, previously introduced between the head and perinæum, in the same manner. The ears ought to be included in the fenestræ of the blades, the latter being placed in the

occipito-mental line with the concave edges towards the pubes of the mother. The two blades, should thus be exactly opposite each other, and great care must be taken during the adaptation of the lock or joint, that no part of the mother be included between them; this is to be ascertained by passing a finger carefully round the instrument at this point.

A tape or ribbon is next to be tied round the handles to keep them from shifting their position: should they, however, approximate quite closely, or remain very far apart, it may be assumed that they are not securely fixed and will be liable to slip. Some difficulty is occasionally met with in introducing the upper or right hand blade, owing to its handle pressing on the bed and preventing its free motion, the accoucheur being obliged to introduce it first into the hollow of the sacrum and afterwards to bring it over the cheek, which proceeding is not always easy to be ac-

complished. Some forceps on this account are constructed with a hinge or moveable handle to this blade, which may be attached by a simple screw *after* its introduction, and this, I think is a great improvement.

In introducing the blades of the instrument, they should, after their points have passed the ear, be moved forwards along the sides of the head—with a very slight semi-rotatory motion, until the lock reaches near the vulva.

The introduction and adaptation of the blades should always be managed during the cessation of pain.

In using the forceps, the force employed in extracting the head should be principally a lateral one, or from blade to blade, but with intervals, resembling those between the labour pains, if inertia is present. Moderate traction should at first be used, the force to be gradually increased, and especial care

taken to exert it in the axis of the superior strait, the handles being brought close to the perinæum, till the occiput begins to emerge from under the arch of the pubes, when they are to be raised towards the symphysis pubis. so as to draw in the axis of the inferior strait. This is to be performed by the right hand, whilst the left is applied to guard the perinæum. A reference to the curved line in plate 3 will explain the necessity of attending to these directions.

A considerable extracting power is required in many cases, continued for some time; but it is only by degrees that we should arrive at its full extent. A sustained and well-directed *moderate* traction will be more effectual than any violent efforts ill directed, and as ill judged.

The principal *difficulties* that attend the use of the forceps, arise from one or more of the following circumstances, viz.

1. Their too early employment;
2. Being applied in a wrong direction;
3. Being passed too quickly;
4. The inclusion in them of some of the soft parts of the mother.

The *dangers* to be apprehended in their use, arise from their careless or violent introduction, *or* from their not being properly applied, and thus slipping whilst strong traction is being employed, hazarding the safety of the uterine and vaginal orifices. When they slip at all, it is prudent to disarticulate the blades before removing them, lest the soft parts should be injured.

Great caution must be used in guarding the perinæum during the use of the forceps,—it, in many cases, becomes extremely tense and thin, and the outline of the blades may be most distinctly felt through it. It is a disputed point amongst authors whether the forceps should be removed or not before the head is extracted: perhaps

the better rule to be guided by is, in cases requiring expedition, such as those of convulsions, flooding, &c., to keep them applied until the extraction of the head is accomplished; but in other cases, after overcoming the difficulty, to remove them, and leave the rest to nature. Little force, however, is requisite generally in their use whilst the head is passing the vulva; but particular care is required at this period if the patient become restless and unsteady, and the operation ought not to be proceeded with till she is induced to be quiet, otherwise a sudden movement may occasion much injury.

It will be advisable, generally, to place a napkin round the handles of the forceps, as from the moisture of the parts the hand of the operator, without it, will not have a firm hold. Hopkins's forceps have an improvement to counteract this, viz. a semicircular bend in the neck of the blades just above the handles, sufficient to

allow one or two fingers to be inserted, and thus to afford a much firmer hold.

Various kinds of forceps are used by different practitioners, according as choice or habit have directed them. The long forceps can be used in most cases, and are, I think, the most convenient even in those where perhaps the short ones might suffice as to length. Clarke's long forceps, and more lately a modification between those and Hopkins's, are what I have been in the habit of using myself. The work of Dr. D. Davis* contains an ample account of the varieties of this instrument.

The foregoing description of the application of the forceps has reference to the two first positions of the head formerly described, in which the occiput is placed towards the pubes. In the third and fourth positions,—i. e. when the occiput is turned towards the sacrum,—the mode of applying the forceps will be similar; but

* Elements of Operative Midwifery.

still greater care must be taken in extracting the head slowly, as the face does not escape from under the arch of the pubes with so much facility, and as the perinæum is more distended than in the former case. The handles of the instrument should also not be carried so much towards the sacrum, but first elevated towards the pubes so as to allow the occiput to escape. We are not likely to meet with the child's head presenting directly in the antero-posterior position, it being a very rare occurrence, as has been previously stated.

A *transverse position* of the child's head occurs at the lower aperture of the pelvis occasionally, whereby the occiput and face are directed towards its sides, the ears lying near the pubes and sacrum. The head, whilst descending into the cavity, not having rotated sufficiently to present the occiput fairly, remains thus placed, wedged in between the tuberosities of the

ischium, so that the long diameter of the head becomes directly opposed to the short one of the outlet. The method of applying the forceps here, differs from that adopted in other positions. One blade is introduced flat under the pubes, the other in the hollow of the sacrum, the points of both being directed rather towards the posterior parts of the head. In using traction, a semi-rotatory movement must at the same time be given to the forceps, so as, if possible, to effect a half turn of the head, and the face will then fall into the hollow of the sacrum. This manœuvre, however, ought not to be executed suddenly or violently.

The other malpositions of the head, though unfrequent, are all owing to its having performed this rotatory movement at an improper time, or less perfectly than it ought to have done, or from its not having effected it at all. The head is thus found presenting diagonally at the

outlet, as it did at the superior strait, and it passes even through the vulva sometimes in this position.

In cases of *face* or *forehead* presentations, it may sometimes be necessary to use the forceps, when the labour is greatly protracted, and requires assistance. In the first of these two positions, having as usual taken care that the bladder be properly evacuated, the blades of the instrument must be passed directly across the face in the fronto-occipital line. The object is to draw down the occiput, and, if possible, to make the chin recede, in order that the case may be reduced to a simple vertex one. The same procedure will also be necessary where the forehead presents. Should we, however, prefer making use of the lever, or which is nearly equivalent to it, one blade of the forceps, it ought to be placed, if possible, behind the occiput, by which means we shall be better enabled to modify its position, and to adjust the extracting power.

The average number of cases requiring the use of the forceps are—

1 in 93, according to Merriman.
1 in 215, according to Boivin.
1 in 200, according to Velpeau.*

In the 2,070 cases already adverted to, I have had to employ the forceps ten times, making 1 in 207;– twice in convulsions, four times in lingering labours, and four times in malformations of the pelvis.

The head is sometimes arrested at the brim of the pelvis, owing either to the narrowness of this opening, to an unusual size of the child's head, or to its long diameter not corresponding with that of the passage. Under these circumstances we require the long forceps, as the blades must of course be carried to a considerable depth: in order, however, that they may be effectually used, it is requisite that the brim of the pelvis should measure not less

* Traité complet des Accouchemens.

than three, or three and a quarter inches in its antero-posterior diameter.

Their application is justifiable only when the membranes are ruptured and the os uteri well dilated,—when the head is not proportionally so large as to require compressing with the instrument above three or four lines,—when exhaustion, either from tedious labour, or from flooding, renders it imperative,—or from convulsions, when the head is too low down to allow of our turning the child.

In the employment of the *long* forceps, the same rules are to be observed as in the use of the *short* ones,—with this exception, however, that their blades, in most instances, must be placed over the face and back part of the head: to effect this with greater care and security, it will be sometimes necessary to introduce the whole hand into the vagina, so as to pass two fingers into the uterus itself, on which to direct the blades, and prevent their injur-

ing the cervix or any part of that organ. It is more difficult, and requires more dexterity and practice to use the long forceps, when the head is at the brim of the pelvis: we must endeavour always in these cases to keep the long diameter of the head in relation with that of the pelvis, and to draw in the direction of the axis of the superior strait. In very difficult cases, it may be even preferable to have recourse to the perforator, rather than to hazard the serious injury of the patient. Dr. Dewees* has, in similar cases, only used the forceps three times in thirty-five years. He recommends *turning* to be resorted to whenever it is practicable, and thinks it is rarely otherwise.

Impaction, or *locked head*, is not of frequent occurrence. It consists in the head being so completely jammed between the pubes and sacrum, as to render it impossible, either for the efforts of the uterus to

* System of Midwifery.

cause its descent, or for the practitioner to push it up, or remove it from its position. Owing to this immobility, attended often by the useless but continued strong expulsive efforts of the uterus, the soft parts become much irritated and swollen by the pressure, and after a time, there is also great tumefaction of the child's scalp.

Both mother and child, especially the latter, are exposed to danger by these untoward circumstances, the former being frequently the subject of inflammation and sloughing; and as the difficulty of evacuating the bladder is very great sometimes, an additional source of danger exists.

The impediment may arise either from the long diameter of the head being wedged in the small diameter of the brim, or the small diameters of both may correspond, but owing to the deformity of the brim, the head may be unable to pass, and thus become impacted. In such cases it is advisable to attempt the use of the long

forceps, especially if the child be living: should we, however, have strong reasons to suspect its death, the perforator may be employed.

The Head being detained when the body is born.

In cases of presentation either by the breech or feet, the labour may go on favourably so long as the body only is concerned. It is in the exit of the head that the principal difficulty is often experienced, even when there is no deformity of the pelvis whatever. This may generally be remedied by the hand alone, although some expertness and readiness are required to preserve the child's life in this critical situation; but when any narrowness in the passage is the occasion of the obstacle, the aid of the forceps will be necessary. In these presentations, the child can be brought down, in most cases, with the face

to the sacrum. Its body and arms must be raised by an assistant towards the abdomen of the mother; whilst the blades of the forceps are to be applied on the head in the same manner as if it were the presenting part. As soon as they are properly adjusted and secured, the trunk of the child is to be depressed again somewhat, the operator acting cautiously with the instrument, and the head may be gradually extracted. Should the face present to the pubes, and our hands be unable to rectify the position, the body must be drawn towards the perinæum whilst the blades are being fixed, and the traction be exerted pretty strongly on the forehead and chin, so as to bring them down under the arch of the pubes.

The Head separated from the Trunk, and remaining in the Uterus.

Fortunately this accident does not now frequently occur, as less violence is em-

ployed in the practice of obstetricy than was formerly the case. Still from circumstances it may occasionally happen, and we must be prepared to act if called upon. An assistant should, in the first place, press moderately on the abdomen, that the child's head may be fixed in a proper position, the operator adapting it to the relative diameter of the aperture. Two obstacles are likely to obstruct our proceedings, viz. contraction of the os uteri over the head, and deformity of the pelvis. In the former case it will be better to give an opiate and warm enema before making any attempts to extract; in the latter, much difficulty will attend the removal of the head, should it not have entered the brim, but by keeping it as steady as possible the blades of the forceps may be applied in the usual way. The handles are in this case to be pressed together as closely as possible. When we cannot succeed with the forceps, the perforator must

be employed, and the head lessened; after which the contractions of the uterus alone will sometimes be sufficient to expel it; if not, the craniotomy forceps or crotchet will prove effectual.

Most lecturers are provided with machines, by means of which they exhibit the various positions of the child; and it is advisable for pupils to practise on these, the application of the forceps repeatedly in every presentation of the head; for though of course the relative state of the parts cannot be represented exactly as in the living subject, still it will give an adroitness in the use of the instrument, and prevent much awkwardness in their future application.

EMBRYOTOMY.

When it is impossible either to turn the child, or to use the forceps effectually, owing to great deformity of the pelvis, or to

the continued pressure of the child's head becoming dangerous to the mother's safety, recourse must be had to this operation. In France and America, under similar circumstances, obstetric practitioners frequently prefer the Sigaultian operation, (division of the symphysis pubis,) or even the Cæsarean section. The former of these operations is now never performed in this country, and the latter only when embryotomy is impracticable.

Craniotomy, or perforation of the skull, may be considered as indispensable, when there is not a space of $2\frac{3}{4}$ inches in the small diameter of the superior strait, the child being at the full term;—when the head of the fœtus is of larger dimensions, or more incompressible than natural from osseous induration of the sutures;—or when certain malpositions exist, which cannot otherwise be rectified.

The operation is performed in the following manner. Whilst an assistant com-

presses the abdomen, so as to keep the uterus and its contents steady and *in sitú*, the operator passes two fingers of the left hand up to the child's head, and rests them if possible on a suture or fontanel; the perforator or Smellie's long scissars being very carefully conducted along the inside of them till it reaches the point to which the fingers are applied, is then to be forced through by a sort of drilling motion, until its shoulders come in contact with the cranium. If this part of the operation occasion the slightest pain to the mother, we may be sure that the instrument is not properly directed. The fingers are now to be withdrawn and the handles of the instrument separated as widely as possible in different directions, by turning them so as to enlarge the opening; this forms the first stage of the operation.

If the pains are strong and no hemorrhage or convulsions are present, we may

allow some time to elapse before proceeding to the next, as in consequence of the bulk of the head being diminished by the escape of the cerebrum, the pains alone are occasionally sufficient to expel it without further assistance. A cordial and opiate may be given, and if no advance be made after a proper time has elapsed, the craniotomy forceps should be passed up in a closed state, along two fingers of the left hand, till they reach the head, when they should be carefully opened, one blade being introduced within the cranium, the other carried closely along the outside of its integuments. Thus by obtaining a firm grasp and co-operating with the uterine pains, a steady and well directed traction is to be sustained, so as to improve if possible the position of the head. The axis of the various parts of the pelvis should be strictly followed, and great care taken that the rugged edges of the bones be covered with the integuments, so as to

prevent the soft parts of the mother from being injured. Dr. D. Davis has the merit of greatly improving the craniotomy forceps so as to introduce them into general use, to the exclusion of that dangerous instrument the crotchet. Those of Dr. R. Lee also are simple in their construction, and very useful.

Portions of bone break off and come away occasionally, but the instrument if used properly is not calculated to do mischief even in this case. It is sometimes even requisite to break down and bring away the cranial bones, as far as we are able, leaving only the base of the skull; this is to be directed edgeways with the chin foremost, in which position it will pass more easily.

After the head has descended, the body is to be extracted as in other cases, if there be sufficient space, but if not, the perforator is to be again applied to the chest, and afterwards to the abdomen if necessary, and evisceration performed by the

crotchet and blunt hook, by which these parts will be much reduced in size, and easily removed.

Various kinds of instruments for the reduction and extraction of the infant's head are used by French practitioners, and by some of our own countrymen. The work of Dr. D. Davis contains delineations of several.

It occasionally happens that the feet and body of the child have passed through the outlet, but that the head is detained owing to deformity of the pelvis, or to other causes, and cannot be relieved even by the forceps. In these cases we can ascertain whether the child be alive or not by the pulsation of the umbilical cord; if there be none, the perforator may be applied behind the ear, and the craniotomy forceps introduced as before directed.

In some cases of *face* presentation this operation is called for: here the aperture must be made above the nose in the sagittal suture.

Should the head under any circumstances be brought away during the operation of cephalotomy, we may either disengage the arms of the child at once, and draw the body down with the blunt hooks inserted in the axillæ so as to procure a good purchase on it; or we may fix the crotchet on the upper part of the spine and extract it in this manner. Turning will be however a preferable mode of proceeding where the impediment had arisen solely from some unusual variation in the size or shape of the child's head, but which is now removed.

In performing the operation of craniotomy, the *first* stage presents little or no difficulty, and is attended by no hazard to the mother if conducted with common care; the *second*, or that of extraction of the head, is much more laborious, especially when the bones of the pelvis are greatly distorted. The chief danger arises from the pressure on the soft parts of the

mother, and from the exhaustion which frequently occurs before recourse is had to the operation; indeed we may attribute many fatal results to this last cause alone. The delay is attributable to the uncertainty which the practitioner labours under as to the child's being alive or not, as great reluctance naturally exists in the mind of every one possessing proper feeling, to perform this operation, where life is not yet extinct. There can be little doubt that it has frequently been had recourse to unnecessarily, some accoucheurs speaking of it as a case of very frequent occurrence, and it is this circumstance which has perhaps in a great measure cast more obloquy on the proceeding than it merits.

We unfortunately are not acquainted with any signs by which the child's death can *with certainty* be prognosticated. The following are enumerated by authors.

"Want of pulsation at the fontanels,—the child not having been felt to move for some time,—the mother having had rigors, flaccidity of the mammæ, a sensation of cold about the uterine region, and there being present a fœtor arising from the vaginal discharge. All these, however, are fallacious signs; but if together with a discharge of a sanious and fœtid nature, there is unusual mobility of the bones of the child's head, and desquamation of the cuticle, there is every reason to suspect that its death has taken place.

If the child be still alive, and an urgent necessity exist for the operation, it should never be undertaken without the concurrence of another practitioner, that is, if it be possible to obtain it without having to wait for any lengthened period, by which the chances against the patient might be materially increased. It is a proceeding attended with great responsibility to the

medical attendant, and should not be undertaken by any one who does not possess great patience and some nerve.

If the patient labours under febrile excitement a small bleeding may be had recourse to before the operation, but in general we find her, on the contrary, suffering from exhaustion and requiring a slight stimulus. The use of the catheter ought never to be omitted both before, and a short time after, the operation.

Some females have *repeatedly* undergone the sufferings of protracted labour, and those occasioned by the process of embryotomy. This, however, might always be avoided after the first accouchement, if they could only be persuaded of the necessity of having premature labour brought on at the termination of the seventh month of pregnancy. I have twice performed this operation on one patient, on account of the great deformity of her pelvis, and she is now pregnant again.

had twenty-four infants born alive; of the remaining four, two were breech presentations, and the other two by mistake were allowed to go beyond the seventh month. He performed this operation ten times on one lady.

This proceeding though not altogether free from danger to the mother, is certainly not accompanied with so much peril as craniotomy at the expiration of the ninth month.

We must recollect, however, that there is a great moral responsibility attending the recommendation or performance of this measure; a proper representation should be made of the circumstances inducing us to advise it, both to the patient and her friends, and our opinion should always be confirmed by that of some other practitioner of experience: it should be borne in mind too, that without these precautions medical, men may be brought into courts of justice,

as has happened in one or two instances. The operation should never be performed until the termination of the seventh month, except under very peculiar circumstances indeed, as before that period, the child is not supposed to possess sufficient strength to enable it to be reared. The most common method of performing it is, to pass the index finger of the left hand up to the os tincæ, and after distinguishing the membranes, to puncture them with the stilette of a catheter, carried up along the finger already introduced, either at that part, or, which is still better, higher up, so as to evacuate the liquor amnii gradually. Another plan recommended, is to separate the decidua from the os and cervix uteri, by passing the finger round between them several times, and should this not be sufficient to induce labour in three or four days, to puncture the membranes high up as just described.

The mode recommended by Dr. Klüge* is, after slightly dilating the os tincæ without rupturing the membranes, to introduce a portion of sponge tent into it about two or three inches in length, and then by supporting it with a plug in the vagina, it will thus cause it gradually and progressively to open: pains generally appear some hours afterwards, or at the farthest in a day or two.

DIVISION OF SYMPHYSIS PUBIS, OR SIGAULTIAN OPERATION.

This does not require any particular description, for though it is practised frequently in France, the operation is now quite exploded in this country, on account of the unfortunate results that have attended it.

* Bulletin de Ferussac, tom. 17.

The results of this operation in Great Britain have been very unfortunate, whilst on the Continent they have been equally favourable: this is owing to its being performed at a much earlier period of labour than with us, whilst the patient's strength continues as yet unimpaired. Thus of thirty-six operations in the maisons d'accouchement in France, eleven were attended with favourable, and twenty-five with unfavourable results, whilst in sixty cases occurring in the private practice of different accoucheurs, thirty-one succeeded: of the children, sixty-seven were saved, and twenty-nine died. Cases are mentioned by Michaëlis,* Dariste,† and several other authors, where the operation has been performed twice and even three times on the

* Abhandlungen aus dem gebiele der Geburtshülfe.

† Dict. des Sc. Méd. tom. 17.

same individual with success. The great dangers attending it seem to be principally those of peritonitis and hemorrhage.

The Cæsarean section, or *gastro-hysterotomy*, is to be performed in the following manner. After evacuating the contents of the bladder and rectum, the patient is placed on her back, near the edge of the bed, with her shoulders and head raised: two assistants, (one on each side of the patient,) press steadily on the abdomen so as to retain the uterus in a fixed position, whilst others prevent the patient from moving her legs, which should during the incisions be extended. The os uteri is to be dilated by the operator before commencing the operation, in order that there may be a passage for the escape of the blood, &c., but it is the usual practice not to rupture the membranes until the child is about to be extracted.

The incision through the integuments and cellular tissue is commenced about

two inches above the umbilicus, with a convex-edged scalpel or bistoury, and continued down to the left of it, in the direction of the linea alba, to within an inch and a half of the pubes. The linea alba and peritoneum are next to be divided, principally by a probe pointed bistoury. The parietes of the uterus are now to be cut through, the incision extending from the fundus to the cervix, and measuring from five to six inches in length.

The membranes are to be ruptured *per vaginam*, in order to prevent the escape of the liquor amnii into the abdominal cavity. The infant is extracted by laying hold of the nearest part which presents itself, and the secundines are to be afterwards removed. A finger should occasionally be passed through the os uteri so as to give free vent to the discharge by that passage. If any arteries have been divided they are to be secured, and all

fluids are to be removed by sponges, previously to applying the sutures. After the uterus has properly contracted, these are to be passed through the edges of the abdominal wound, and two or three *long* strips of adhesive plaster may be placed across the latter so as to aid the sutures in retaining the edges of the wound together. A good application over the incision would perhaps be that used by Mr. Liston in all large incised wounds, viz., a spirituous solution of isinglass spread on oiled silk. Bandages are now to be placed round the abdomen. The patient should be very carefully watched for some days, and the parts are to be inspected occasionally, lest inflammation should supervene.

The temperature of the apartment in which the operation is performed, should be raised to 84° of Fahrenheit.

Those who are anxious to make themselves fully acquainted with the history

and details of this subject, may consult Velpeau's excellent work.*

We are not unlikely to be called on occasionally to perform this operation in cases of sudden death of a pregnant female, who may have advanced beyond the seventh month, as the child has frequently under these circumstances been extracted alive a short time after the death of the mother. It should be had recourse to as soon as possible after this event, and although the same difficulties will not present themselves as in the living subject, yet equal care ought to be taken in its performance. It should be borne in mind too, that several instances have occurred in which the patients proved not to be dead, but in a lethargic state only. It would be better perhaps if called to a case of sudden death under those circumstances to endeavour to extract the child by the natural passages if possible,

* Op. cit.

and if not, then to operate carefully by making the section of the abdominal parietes and womb.

CLASS III.—PRETERNATURAL LABOURS.

All presentations except those of the head are included in this class. We cannot be certain of their existence until the os uteri is sufficiently dilated to allow of our examining through it, though we may sometimes be led to suspect it, on account of the female, if she has had children before, finding the position of the child different from the last. The membranes coming down in an unusual form will often give notice of a preternatural presentation, but their descent in the natural way will be no proof to the contrary. In order to acquire an aptitude in distinguishing the presenting parts of a child in utero, it is very advisable that the young obstetric practitioner should frequently and carefully feel the different

parts of a new-born infant without looking at them, in order that he may be accustomed to them, and thus be less liable to mistake them in seasons of difficulty.

A natural presentation may occasionally change to a preternatural one, owing to the contractions of the womb acting unequally on the different parts of the child, or even from mismanagement and improper interference.

It is of importance to discover the precise presentation *early* in these cases, as it may enable us to rectify it sometimes, when otherwise great difficulty would attend the proceeding at an advanced stage.

Preternatural presentations may be divided into two orders; 1st, *Presentations of the breech or inferior extremities.* 2*nd*, *Presentations of the shoulder or superior extremities.* The first of these will generally be terminated by nature alone, the second require the prompt assistance of the accoucheur.

Diagnosis.—In some few cases this presentation may be distinguished even through the abdominal parietes, the head of the child being placed so high up as to give to them a very different appearance from what is usually observed; but of course it is a doubtful criterion. It may, however, be ascertained, on examination per vaginam, by the size and soft fleshy

feel of the presenting part, by the tuberosity of the ischium, the point of the coccyx, the parts of generation, the groove between the nates and thighs, and, generally, by the discharge of meconium. The breech is more likely to be mistaken for a face presentation than any other. Madame Lachapelle mentions the fact of an obstetric professor having fallen into this error in the clinical ward: he had just made a *careful* examination, and was warning his pupils of their liability to mistake a case of face presentation, like the one before them, for that of the nates. He pointed out to them how the mouth could be distinguished from the anus, by the finger, as he had just done with his, when observing the pupils laugh, and looking at it, he perceived that it was covered with meconium.

In breech presentations, the back of the infant is not placed exactly in relation with the abdomen of the mother, but rather diagonally, being directed to either side

Out of 1390 cases of this presentation, 756 were found turned towards the left side, whilst 494 were to the right. (Lachapelle.) The thighs are generally directed to the posterior part of the pelvis, the breech descends obliquely, one hip being rather lower than the other, and emerging from under the arch of the pubes, whilst the opposite one sweeps along the hollow of the sacrum and perinæum. The body of the child makes a slight rotation after they are disengaged, by which means the shoulders become adapted to the superior aperture of the pelvis as regards their respective diameters.

A slight difference of extension or flexion of the inferior extremities, will make it either a breech or footling presentation, as the feet and nates are generally near each other, and may occasionally both be felt at the same time at an early stage of the labour. If the breech ad-

vance first, the feet are then pushed up towards the abdomen, and at the same time separated from each other.

This presentation, though sometimes the cause of a tedious labour, requires in general no interference on the part of the practitioner till the breech be protruded; and notwithstanding some obstetric authors have recommended the feet to be pulled down as soon as the nates descend low enough to allow of its being done, it is much better not to meddle with them, but merely to slacken somewhat the umbilical cord, and allow them to protrude spontaneously.

Dr. W. Hunter ingenuously informs us that until he left these cases to the efforts of nature, he lost the child in almost every one of them. Should peculiar circumstances render it necessary to expedite the birth of the child by traction, the axes of the parts through which it has to pass should be borne in mind. Thus, to bring

it through the superior strait, our efforts should be directed downwards and backwards, then directly downwards to make it traverse the pelvic cavity itself, and, lastly, downwards and forwards in order that it may pass the outlet: this proceeding should be accompanied with great gentleness and care.

The genitals of the male child, which are frequently the first parts felt in this description of labour, are often ecchymosed to a great degree, owing to their being so much compressed.

In breech cases, the perinæum should be guarded with great care lest it be ruptured by a sudden projection of the leg and foot.

Obstetric authors in general assert that the arms are always placed above the head in this as well as in feet presentations; but Desormeaux, Lachapelle, Velpeau, and some others, deny this, and maintain that the elbows and fore-arms escape by

the side of the chest, when the labour is allowed to proceed by itself, and that it is owing solely to the body being pulled down, that the arms are found in the former position. An examination should be made whilst the thorax is descending, to discover their position, so that if requisite they may be drawn down one after the other. This is to be effected by passing two fingers up to the bend of the elbows, and very carefully bringing the hands over the face, using much caution lest the humerus should be fractured,—a circumstance that occurred lately in a case attended by a midwife, in which I was consulted.

In some cases the thighs and abdomen of the child are placed anteriorly, corresponding with the abdomen of the mother: this position is ascertained after a time by examining the direction of its genitals and thighs, and will naturally cause more difficulty in the passage of the head, the face

being towards the pubes. We are here justified in endeavouring to rectify the malposition, by grasping the nates as soon as they shall have reached the external parts, (which may be done with a warm cloth interposed in order to prevent the hands from slipping,) and with care and perseverance turning the body round so as to bring the chest of the child to the sacrum, and the head in a diagonal position with regard to the outlet.

When, from the size of the child, or the diminished capacity of the pelvis, the nates do not advance, the active aid of the accoucheur is required. This may be afforded by fixing the fore and middle fingers of each hand over the bend of the thighs, drawing by them alternately, and co-operating with the pains. The use of the blunt hook is recommended in some cases; but if this instrument be not employed with very great caution, a fracture of the thigh may be the consequence: a

silk handkerchief, placed if possible carefully over the flexure of the thighs, is perhaps preferable. Dr. Hamilton strongly recommends the use of the forceps under these circumstances, having never failed with them but once, in which instance the infant was very large, (weighing about fourteen pounds,) and so wedged in the pelvis, that he found himself obliged to use the crotchet.

If hemorrhage or convulsions occur in an early stage of this presentation, it is advisable to introduce the hand, pushing the breech aside if possible, whilst the feet are sought for and brought down.

If any difficulty present itself in extracting the child's head, the forefinger of the left hand may be introduced into the mouth, and the chin depressed, which will materially assist our endeavours. Too much force must not be exerted at this time, lest the head be separated from the body and be left in the uterus.

Spina bifida, or tumors of any description, may render the passage of the infant, in a breech presentation a very difficult matter. A medical friend informed me lately that he had attended a case of this description with another practitioner, in which, no advance having taken place for many hours, so much force was employed in endeavouring to extract the child, after getting a foot down, that the leg was torn completely off; at length a profuse gush of fluid taking place, owing to the bursting of the tumor, delivery followed immediately.

Breech presentation is the most frequent one next to that of the vertex.

837 in 37,895 cases, or about 1 in 45½ Lachapelle.
373 in 20,517 cases, or 1 in 55..... Boivin.
1 in 86..... Merriman.

Prognosis.—This position is not more dangerous to the mother than that of the vertex, but the life of the child is placed

in considerable peril: thus at the Maternité of Paris one in seven died, whilst in vertex presentations one in thirty only was lost. The chances are against the child's being born alive, in a first labour, but not so in the succeeding ones, even if of the same description.

There seems to be a disposition in some females to have preternatural labours. I have met with three patients who have each had breech presentations in two successive labours; Velpeau attended one woman who had *six* children all born in this position.

PRESENTATION OF FEET.

Diagnosis.—Before deciding on any case of this kind, we should make ourselves quite certain that it is the foot which presents, as mistaking a hand for it would occasion very serious difficulties.

The foot may be known by its length

being greater, and its breadth less than that of the hand, by the shortness of the toes, and their lying more evenly and regularly together than the fingers which bend towards the palm of the hand,—and by the projection of the heel, together with the angle formed between the leg and the foot.

In this presentation the fœtus is so placed that the thighs are bent up on the pelvis, and the legs on the thighs; thus the heels are applied close to the nates. It has most frequently its abdomen and knees placed posteriorly, and to the right side of the mother. Madame Boivin* found this position occur 135 times out of 234 instances, whilst the opposite position, or that in which the abdomen and knees were situated posteriorly and to the left, she found to exist only 86 times out of the same number.

A footling case requires the same management as when the breech presents,

* Op. citat.

and should, generally speaking, be left to the efforts of nature alone, though it offers a temptation to the novice to interfere by pulling. After the breech has passed, the umbilical cord should be drawn out a little to prevent its being compressed, and the state of its pulsation should guide us in a great measure as to rendering any further assistance by drawing the child forward: if it pulsate strongly, no interference is necessary; but should this action be at all interrupted, then it is requisite that the child should be abstracted promptly from the pelvis. In order to effect this, the limbs of the child should be grasped, with a warm napkin interposed, and the body gently swayed from side to side during the pains in order to facilitate its expulsion.

If the toes present directly to the pubes, the head will enter the pelvis in a wrong direction, and render it necessary for us first to turn the body so as to direct the

toes towards either sacro-iliac symphysis, before exerting any extractive power. This however is a rare case, occurring on the average 6 times in 234 breech cases, according to Madame Boivin.

Sometimes one foot alone presents, in which case it is better to wait till the other comes down spontaneously; at other times the feet and breech present together, when it is generally recommended to bring down the feet. A foot and hand presenting together is rare; the foot, of course, is to be brought down in such a presentation.

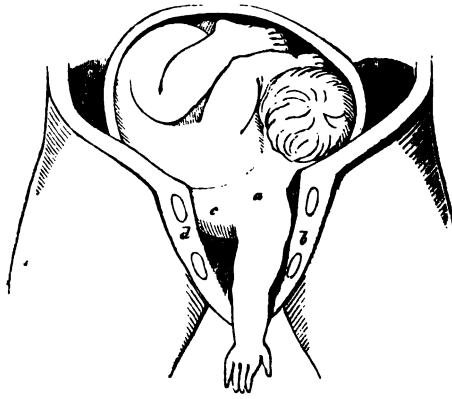
Presentations of the feet are not so common as those of the breech, the average being 538 in 37,895, according to Lachapelle, or 1 in 70; 23 in 1,800 according to Merriman, or 1 in 78. In a register of 2,070 parochial cases, I find only 33 pelvic presentations noted, the great majority of which are stated to have been those of the breech; but as the midwives do not think these cases require any as-

sistance, I cannot speak confidently as to the precise number of each, not having been called to see the greater number of them.

Presentations of the knees may be easily distinguished, but they are of very rare occurrence;—about 11 in 37,895, Lachapelle; 4 in 20,517, Boivin. They require no particular description, as they are soon changed into footling cases by the advance of the child.

Presentations of the abdomen, back, or *sides,* are also very rare: out of 20,517 cases at the Maternité, no such presentation occurred at the full period; and in the practice of the Drs. Merriman, senior and junior, out of 20,000 cases the same result was found. Should they however occur, their management is simple, as the child cannot thus be wedged in the passages, and we can therefore more easily press it to one side, feel for the feet, and bring them down.

Order II.—Presentation of superior Extremities.



a, the shoulder descending very low; *b* and *d*, section of pubes and vulva; *c*, the chest, being pushed forward, and forming the commencement of spontaneous evolution.

These labours are, in common language, termed *cross-births*, and are of a more serious character than those of the first

order, as ordinary labour pains are altogether unequal to the task of expelling the infant, and manual assistance is absolutely requisite.

Presentations of the shoulder are so frequently complicated with the descent of part or the whole of the arm, that it is perhaps unnecessary to describe them separately. The right shoulder and arm present more frequently than the left.

Diagnosis. — At an early period the shoulder is not very easily distinguished, as before the rupture of the membranes it remains high up, and may be mistaken for the head or breech. Its distinctive characters are, the small round tumor formed by its summit, the projection on one side by the clavicle, on the other by the scapula, the armpit and arm behind which the projecting surfaces of the ribs may generally be felt: if the elbow be somewhat low down, the diagnosis is much more easy. When the arm and hand

present, a careful examination will leave no doubt as to the fact if the circumstances mentioned before, be remembered. We must recollect, however, that the arm may present along with the head, and even with the breech; but by tracing it up to the shoulder, we can render ourselves more certain as to the existence of this complicated presentation.

Arm presentations are found to occur under *three* different circumstances, according as the practitioner arrives at an early period of the labour or not.

First,—The os uteri may be tolerably dilated, the membranes remain unbroken, and a substance felt within them which by a careful examination may be distinguished as a hand.

Again,—The membranes may be ruptured, the os uteri very little dilated, and the hand lying just within it.

Lastly,—The labour may have advanced so far before our arrival, that the

hand is thrust down even beyond the external orifice, with the shoulder in the os uteri, and the womb itself contracted strongly around the body of the child. Sometimes, though rarely, both arms descend together, but it more frequently happens that one only is protruded whilst the other remains "in utero."

The first of these varieties is the most favourable, the practice in it being the same, however, as in the second, with this exception, that in the latter we may find it sometimes requisite to employ venesection, and an enema, and then to dilate the os uteri, before turning. Some practitioners merely push up the arm in cases of this description, but it is a waste of time, as some more effective measures must be resorted to in the end.

VERSION, OR TURNING.

Before commencing this operation we should always apprize the patient and her

friends of what we are about to do, representing the imperious necessity for it, and the probable speedy termination of her sufferings which will result from this proceeding.

The bowels and bladder being first evacuated, and the patient's hips brought close to the edge of the bed, the accoucheur then bares his arm to the elbow by turning up his coat sleeve, (or which is still better, by taking off his coat altogether and turning up his shirt sleeve,) lubricates the arm and back of the hand with lard, pomatum, or with soap and warm water, and introduces the hand into the vagina with the fingers previously gathered into a conical form. Having reached the os uteri the membranes are to be ruptured, and the hand passed up till he feels one, or both feet, which he grasps and pulls slowly down. In doing this, the arm which protruded gradually ascends, and a kind of rotatory motion, or *turn*, is

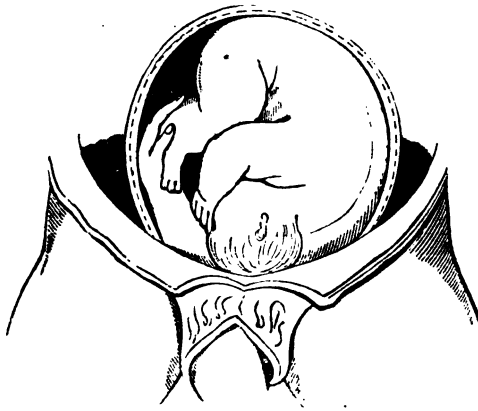
given to the child, from whence the name has been derived. It is sometime necessary to push back slowly the presenting arm with one of our hands whilst we are turning with the other.

As the legs are generally found flexed on the thighs somewhat, "in utero," I have found the bend of the knee give me a fairer purchase even, than laying hold of the foot; but we must be guided by circumstances. If one foot only can be found, it will be sufficient, as the other will soon follow its descent. The feet frequently lie at the fundus of the womb, and it is as well to recollect this, as the arm may require to be passed very high up, sometimes even to the elbow, before they can be reached. The hand should be inclined forward towards the abdomen of the mother, in order to follow the axis of the superior strait.

If uterine contractions come on during the time the hand is in the womb, it should be laid *flat* on the body of the child until

they have abated, when we may again renew our attempts: in this manner we at length arrive at the feet without so much risk of injury to the womb, for rupture of it has occasionally taken place, owing to its forcible contraction against the knuckles.

When the feet are once fairly extracted, the case is to be treated precisely as a footling one.



Operation of turning in vertex presentation.

Turning should always be managed with the greatest care and solicitude for the mother's safety, as it is one of the most important operations in obstetric practice.

In most cases an assitasnt should gently compress the abdomen, the uterus being occasionally so moveable as to increase the difficulty of laying hold of the feet: at other times it would be hazardous to introduce the hand at all into the womb owing to its strong contractions, and even when introduced, the hand of the operator may be so benumbed by them, that if continued long there, he may find it no easy task to distinguish or lay hold of the feet. This is particularly the case in the third description of case before-mentioned, Dr. Hamilton, in one case, had his hand four hours in the uterus before he succeeded in bringing down the feet; this will at least indicate, that perseverance is very necessary, and that we ought not to give up

the point on account of any common obstruction.

To allay these strong contractile efforts it is expedient to bleed the patient and give her an opiate enema, followed by a draught of the same description, containing from thirty to sixty drops of vin. opii. We then endeavour to pass the hand up into the womb by the armpit of the child, which may after each pain be pushed away a little, towards the fundus, till we have gained sufficient room to introduce the hand altogether, so as to reach the feet, which are to be then brought down. This is a proceeding attended frequently with very slow progress and great difficulty.

In pushing back the protruding arm we must be careful at the same time to retain a good hold of the foot, and it is indeed better to secure it in the passage by means of a piece of broad tape.

When the arm has remained a long

time in this position, the great pressure on it causes occasionally much tumefaction and ecchymosis, temporary paralysis, and sometimes even sloughing of this member.

The proceeding of taking off the coat has been reprobated by some authors as indecent and apt to frighten the patient, but in a serious case of this description where we require the free use of the arm, embarrassment is worse than want of delicacy, (if it really be so,) and the opinion of Smellie may be quoted, that "at such a time affectation is quite misplaced, and the operator should, before every thing, consult his own judgment as to the best manner in which he can effect his object."

Either hand may be used according as the child is placed; it is generally recommended to employ the right hand if the right shoulder presents, and *vice versâ;* but owing to circumstances, it requires

much tact sometimes to distinguish between them. At all events we must not neglect to draw down the feet towards the anterior surface of the infant, and it is as well to attend to a suggestion of Roederer* not to lubricate the *palm* of the hand, as a firm hold is requisite, and the fluids in the womb alone tend to render it slippery. If we have the choice of either foot, that one should be preferred which is on the opposite side to the shoulder or arm presenting, as it will enable us to act in such a way as to facilitate the ascent of the latter. Cases occur in which it is impossible with every exertion to introduce the hand, owing to the escape of the liquor amnii, and the child's shoulder being completely wedged in the aperture by the strong uterine contractions. These were formerly abandoned as hopeless, but Dr. Denman has taught us that they may

* Element. art. obstet.

be remedied by this very power of the uterus alone effecting a natural operation which he denominated

Spontaneous Evolution.

This is performed by the child's body being at length brought into so compact a state by the uterine efforts, that the breech is gradually forced down, and is the first part delivered, the body turning as it were on its own axis. The knowledge of this fact is important, but we can never rely upon the likelihood of its occurrence, and indeed the hazard of waiting for this effort is too great to be risked unless under very particular circumstances. Many of the cases related by writers took place before the full term of gestation, and in almost every one the child was born dead.

Amputation of one or both arms, and evisceration of the thorax and abdomen, have been recommended by some obstetric

authors, and latterly by Dr. R. Lee, in cases where turning becomes impracticable owing to the strong uterine contractions and the impossibility of controlling them sufficiently to allow of its performance. I had a case of this description in the lying-in wards of our workhouse, a few years since, in which Dr. R. Lee was kind enough to assist me. The umbilical cord presented with the arm, and from its want of pulsation we were assured of the child's death. The patient was bled twice and took two doses of laudanum, one of fifty, the other of eighty drops in the course of the day, but without the effect of controlling the pains in the least degree. The difficulties in amputating the arms and eviscerating the cavities were such as I have never met with in any other obstetric case, and occupied us some hours in the performance.

Prognosis.—The operation of turning is always attended by a certain degree of

risk, both to the mother and child, especially to the latter. Rupture of the uterus is an accident most to be feared, for a child cannot be turned round in the uterus without much difficulty, when once this organ has contracted closely on it, as is frequently the case after the discharge of the liquor amnii. The os uteri should always be well dilated before we attempt the operation. The greatest danger arises from ignorance of the precise nature of the case, and the maltreatment consequent upon it. Out of 118 arm cases, 63 *living* children were born. (Lachapelle.)

Some females have a deviation in the position of the child from the proper one in every accouchement. Thus Mons. Busch mentions in the Journal Hebdomadaire for 1834, that a patient of his had a presentation of the arm in six successive labours.

Presentations of the superior extremity occurred,

1 in 263, according to Nägelé.
1 in 200, according to Lachapelle.
1 in 170, according to Merriman.

Out of 2,070 cases I find 9 cases of arm-presentation in my note book, in which I had to turn, and 3 cases of hemorrhage requiring the same operation. Madame Boivin states that out of 20,357 cases she required to perform version 218 times.

It must be recollected that turning is not only requisite in arm-presentations, but in some cases of hemorrage, convulsions, &c.

FOURTH CLASS.—COMPLEX LABOUR.

The cases included under this head are,

Plurality of children, presentation of the arm with the head, prolapsus of the funis, labours accompanied with dangerous faintings, rupture of the uterus, bladder, vagina or perinæum, uterine hemorrhage, convulsions, tumors and cicatrices in the vagina, and prolapsus or inversio uteri.

Plurality of children.—The signs of the presence of twins laid down so particularly by the older authors, are all fallacious; the knowledge of the fact is of no importance to the accoucheur before labour, and might perhaps occasion him some degree of anxiety without any corresponding benefit. The labour in these cases is generally slow, as the uterus cannot exert its proper action upon the first child, and there is something in the nature of the pains as if their force were divided

by some other object, which certain obstetric practitioners affirm almost always, convinces them that it is a twin case. It is only after the birth of the first child, however, that we can accurately determine the presence of a second, and hence the necessity at this period for examining the abdomen *in every case* of labour. If the parietes are still distended and feel hard from the pubes to above the umbilicus, we should endeavour to discover, per vaginam, whether another child or its membranes can be distinguished, but should they be soft and relaxed, and a hard round tumour about the size of a child's head be felt just above the pubes, we may be assured that there is not a second infant. For want of this precaution, some practitioners have, as they thought, completed everything, and taken leave of the patient after congratulating her on the termination of her sufferings, but are perhaps in a short time after, recalled to assist in the birth of a

second child, an incident which cannot fail to bring them into disrepute. Several circumstances, it must be remembered, may tend to deceive us in our external examination, such as the presence of an enlarged ovary, ascites, great distention of the urinary bladder, &c.

When, however, we ascertain that there is a second child, the question is, how ought we to act, as there may perhaps be no pains, for hours, and even for days together. Now since this doubtful state may be attended at any moment by the danger of hemorrhage, owing to the separation of the first placenta, it cannot be prudent to quit the patient, or trust to the return of the uterine contractions. Therefore the practice generally followed, is, that should pains not recur after a reasonable time, (say from one to four hours according to circumstances,) we proceed to extract the child by rupturing the membranes, and passing the hand up by the

cord to the feet, lay hold of them and draw them down, if they or any other part, except the head, present; and even in the latter case too, if no pains come on and the patient be weak. A bandage passed pretty tightly round the patient's abdomen after the birth of the first child, will tend to prevent the occurrence of hemorrhage, and to give support during the expulsion of the second. It is recommended by some authors, that we should tie a tape round the ankle or wrist of the first born, which will serve not only as a mark of distinction afterwards, but as a proof that we expected a second. Still we should not on any account apprize the patient of the latter circumstance till the child is about to be born, when we may inform her of the fact, lest its crying should alarm her, but assuring her at the same time that all danger is now over. After the birth of the second infant, we should again examine the abdomen, as there may

even be a third. Twins are generally smaller in proportion than a single child, and it is the small size of the first which sometimes induces us to suspect the presence of another. We must be very careful in the management of the placentæ in twin cases: removing the first, before the birth of the second child, would prove a source of great danger; we should take hold of both umbilical cords at the same time, and draw them gently one after the other, so as to extract both placentæ as nearly together as possible (if separate;) sometimes, however, they are connected.

Twins may be enclosed, each in separate membranes, or together in one membranous sac only: this latter, however, is a rare occurrence; but in such a case should there be a presentation of the feet, we must be very careful not to bring down a foot of *each* child, and still more so if turning should be required. In twin cases, both, or either of them, may present with the

head, or each in a different position. A firm degree of pressure should be maintained on the abdomen after the birth of twins, by interposing a couple of napkins under the bandage on the region of the womb, and we should remain a longer time with the patient than usual, lest hemorrhage should supervene.

The average number of twin cases is about one in ninety. Some females seem predisposed to its occurrence, bearing twins in two or three successive labours. Dugés attended a woman who bore seven children in three accouchements.

It is proper to remember that a female may miscarry, or have a premature labour, with one twin, and yet go on to the full term with the other: (three instances of this have come within my knowledge:) or one may lose its vitality during any period of pregnancy, and yet remain in the womb and be expelled at the same time as the other.

Instances of three children at one birth are very rare. The probable average of *triplets* is about 1 in 5,000 cases. Out of the last 5,270 cases which have been attended by our parochial midwives, one case only of triplets has occurred, and this was in a woman aged forty, and her first labour. One of the children was reared.

PRESENTATION OF ONE OR BOTH HANDS WITH THE HEAD.

If this complication be discovered early, and properly managed, it does not cause much inconvenience. The accoucheur having placed his forefinger between the fingers of the child, pushes its hand up gently during the pains, or merely sustains it till the head has descended past it, by which means he effectually prevents its further progress: great care should at least be taken, not to solicit the further descent of the arm, lest the position of the

child's head should at the same time be changed. When the pelvis is well formed, the head may descend safely along with one or both arms; it generally happens, however, that this result is attributable to the pelvis being wider than usual. The arms are usually found much tumefied and bruised, and the child is unable to to use them for some hours or even days: they gradually regain their strength by the employment of fomentations and frictions.

Where the arm cannot be kept up, we must endeavour to place it in the most advantageous position, so that it may add as little as possible to the difficulty. When, from the size of the child or small capacity of the pelvis, no advance is made in the labour, such assistance must be given as we may find requisite. Turning is not in general necessary, and should the forceps be required, they are to be applied as in a

case of simple vertex presentation. This complication was

2 in 17,499, according to Baudelocque, or 1 in 8,749.
13 in 2,947, according to Merriman, or 1 in 226.

PROLAPSUS OF THE UMBILICAL CORD

Was erroneously thought by many of the older obstetric authors to betoken a presentation of the abdomen, a case which happens very rarely indeed. It may accompany the presentation of the head, breech, feet, arm, &c. A common cause of its occurrence is the rupture of the membranes prematurely, with a rapid discharge of the liquor amnii, especially when the latter is in large quantity. The cord or funis is, however, sometimes the presenting part within the membranes, and instances are related of its descent taking place in several successive labours of the same patient, owing generally to its unusual length.

When it accompanies a presentation of the head, breech, or feet, our practice must be guided by several circumstances; for though it causes no danger or difficulty as far as the mother is concerned, it often places the life of the child in the greatest jeopardy, from the compression to which it is subjected, interrupting the free circulation of the blood through it to the placenta. The condition of the cord as to pulsation affords a sure criterion by which we may judge whether the child be alive or not. This is indeed a fact of great importance, as it will entirely regulate our course of proceeding. If the child be dead, the labour should be allowed to progress without interfering with it; if, on the contrary, it be still alive, we are bound to render some assistance in order to preserve it.

There are three methods of doing this.

1. By endeavouring to push up the funis with the finger during the pains, so

that the child may get past it, and thus prevent its further descent: this does not generally succeed, as the next pain mostly forces it down again. Instruments are used on the continent for the purpose of carrying the prolapsed portion of cord back into the womb, and supporting it there. They consist generally of a thin elastic substance which will not occupy much space. Dr. D. Davis, whose mechanical genius is well known, has likewise invented a very good instrument for this purpose. It has been recommended by different practitioners to inclose the portion of cord which has descended, in a bag, and re-introduce it into the uterus, or to pass the hand up and attach it to one or other of the extremities of the fœtus. These are some of the principal methods which have been devised.

2. The most usual practice in this country is, to turn the child, if the cord pulsates, if the pains are not very strong,

and if the head has not yet entered the pelvis. Under these circumstances we may often succeed in saving the child, but at the same time the cord must be carried into the uterus to prevent its sustaining any injury during this operation. If the contractile efforts of the womb are very strong, and the liquor amnii has escaped, the attempt to turn will be attended with little benefit, and we may run the risk of rupturing the uterus without accomplishing our object.

3. If the head is low down, and the parts well dilated, the pulsations of the cord becoming weaker, we may expedite labour by the careful use of the forceps: should, however, the funis be passing down at the back part of the pelvis towards the sacro-iliac synchondroses, it will influence our practice so far as to render it advisable in some cases to allow the labour to progress naturally, and not to accelerate the passage of the head by the

forceps unless much delay occurs, as the cord is not likely to suffer so much pressure in that situation.

If the *funis* and *arm* present together, turning must necessarily be had recourse to, as the mother's safety is then concerned as well as that of the child.

Prolapsus of the cord is not very frequent, though it can hardly be said to be rare. It occurred

37 times in 17,499 cases, Baudelocque, or 1 in 473.
41 times in 15,652 cases, Lachapelle, or 1 in 381.
8 times in 2,947 cases, Merriman, or 1 in 368.

In 2,070 cases I found eight of this kind, two of which were accompanied by the hand.

Alarming syncope sometimes accompanies or follows labour, and particularly where flooding has taken place, which will be described hereafter. The prognosis is unfavourable, and we are not always able to account for the cause of

the attack. It generally occurs in nervous delicate females, and is more frequent after labour than during it. If under the latter circumstances danger be apprehended, we should deliver as soon as possible. In ordinary cases slight stimulants and cordials will suffice.

RUPTURE OF THE UTERUS.

This melancholy accident may take place, not only during labour, but also in the early months of gestation, even at the third month, as related by Collineau* and others. It may depend on some chronic diseased action of the parietes of the uterus causing partial absorption or thinness at one particular part, or from a schirrous state of its substance. A fibrous tumor, cicatrices, &c. will give rise to the accident, by weakening the part which they occupy. An unusual projection of the

* Bulletin de Ferussac, tom. i.

promontory of the sacrum, sharpness of the linea ilio-pectinea, as well as the mal-position of the fœtus itself, have been said to occasion it; in short, any circumstance which can furnish an obstacle to the exit of the fœtus may be looked on as a predisposing cause of rupture of the uterus. External violence, such as blows or kicks, irregular action of the womb itself, the operation of turning, and the use of instruments, especially the forceps, have been known to produce it. The laceration most frequently takes place near the cervix uteri, though sometimes at the fundus or sides: the insertion of the placenta does not seem to influence its occurrence at the part to which it is attached.

The symptoms attending this unfortunate accident are, "severe pain suddenly occurring, and increasing to agony, attended by the sensation of something rending or having *given way*, (the noise of which in some cases is said to have been perceptible

to the attendants,) vomiting, shiverings, clamminess of skin, quick weak pulse, difficult respiration, great paleness and anxiety of countenance, alarming faintings, immediate cessation of *labour* pains, though a violent general pain in the abdomen, accompanied with moaning, continues. The abdomen feels more pliant and unequal, the fœtus can be discovered through its parietes much more distinctly than before, though on examining per vaginam the membranes and presenting part are no longer to be felt. The superior part of the vagina often shares in this accident.

Diagnosis.—Violent spasmodic affections of the bowels taking place during labour, will sometimes present symptoms somewhat like those above mentioned. I once met with a case in which most of them were present. It resulted from a strain during some exertion, and was accompanied by over-distension of the uterus, owing to the immense quantity of liquor

amnii present. The urgent symptoms disappeared on rupturing the membranes, and allowing the water to escape. Rupture of the bladder is generally not attended with such violent pain as that of the uterus, nor are the labour-pains arrested in this instance. Professor Dubois* used to relate, that on one occasion introducing his hand into the womb, after the birth of the child, and finding something like an aperture at its fundus, he mistook it for a laceration. It depended, however, on an encysted state of the placenta; and the uterine contraction happening to subside a moment after, soon convinced him of his error.

Prognosis.—This accident, though not (as might be supposed) necessarily mortal, yet terminates fatally in the great majority of cases. Well authenticated instances are on record, in which the child, after escaping into the abdomen, remained there for some time, and was eventually dis-

* Oral Lectures.

charged through its parietes, or from the rectum, by means of an abscess. A speedy death, however, is the usual result of this most formidable injury: in other instances, hemorrhage, inflammation of the womb, peritonitis, abscesses, or gangrene, supervene, and destroy the patient's life.

Treatment.—When the pains are very violent and irregular, the resistance great, no advance of the child perceived, and other circumstances which might reasonably be supposed to indicate a liability to this accident, much good may be effected by a timely abstraction of blood and by opiate glysters. When the rupture, however, has taken place, and the child remains partly in the uterus, we should endeavour to extract it by passing up the hand and laying hold of the feet, or should the head allow of the application of the long forceps, we might advantageously employ them. Even if the child has escaped entirely from the uterus and is lying

amongst the intestines, it is not impossible sometimes to deliver by the hand, although the laceration will probably be increased by the re-passing of the fœtus through it. Some idea may be formed of the difficulty attendant on this proceeding, when it is remembered that in searching, during the operation of turning, for the feet of the child, it is sometimes necessary to pass the hand high enough up to come in contact with the liver, or with the kidney; instances of which are related by Dr. Blundell* and others. Some eminent accoucheurs have recommended that in cases of this description, nothing should be done but that the patient should be allowed to take her chance (slight as it is) of recovery, as the child may escape from some part of the abdomen by suppuration.

This is, however, giving her only half the chance that the operation of gastrotomy would afford, when we are unable to

* Lectures on Midwifery.—*Lancet.*

deliver by the natural passages owing to strong rigidity of the cervix uteri or contraction of the womb. Several instances are related of success attending this operation under such circumstances, and in some of which the child also has been saved. It seems now to be generally agreed upon, that if we are not able to deliver by the vagina, the Cæsarean section should be performed immediately. Slight ruptures of the *neck* of the womb may sometimes occur without being followed by serious symptoms, the healing process taking place after the birth of the child, without any assistance. Rupture of the uterus fortunately is of rare occurrence. In the immense practice of the Maternité at Paris, the average number is not above one case in the year. This does not include, of course, the slight lacerations of the utero-vaginal orifice above mentioned.

LACERATION OF VAGINA.

This accident sometimes accompanies ruptures of the uterus, one common rent embracing portions of both structures, but at other times the vagina is alone injured. If the laceration takes place at the upper part, an opening is made into the cavity of the abdomen and the child may even escape into it through the aperture. Hemorrhage, externally, occurs to a greater extent than in rupture of the uterus, or the blood may be poured into the abdomen.

Some practitioners have considered such a laceration as attended with less danger than that of the uterus, but there can be little difference in this respect unless the lower part of the vagina is alone involved in the accident, which would certainly make it less dangerous than when there is a communication with the abdominal cavity. Lacerations of the lower part of the vagi-

na occasionally attend those of the perinæum.

Inflammation and sloughing of the vagina are of more frequent occurrence perhaps than rupture, and form fistulous openings communicating with the bladder or rectum. These are owing to the long continued pressure of the child's head on the parts, and generally appear a few days after the accouchement, when the sloughs separate. Something perhaps depends on the state of the patient at the time, as they more readily occur in some cases than others, the continuance of the pressure for five or six hours being occasionally sufficient to cause it. These lamentable cases are generally incurable, and the patients suffer a life of misery resulting from the accident. Dr. Ryan* recommends, when a fistulous opening has been made into the bladder, which usually takes place at its neck, that the patient should lie as much

* Manual of Midwifery.

as possible on her sides or face, so that the urine may be collected on the sound surface of the bladder, and the cause of the irritation in the vagina be in this way removed. Oiled lint may be tightly pressed into the vagina and removed every third day: wearing a flexible catheter will much assist the chances of cure. Actual cautery, caustic and sutures, have been applied to the lips of the wound, and each has been successful occasionally—whilst the introduction of a gum elastic bottle per vaginam has been recommended by Holmes and Earle. I have not yet had an opportunity of trying the latter remedy, but I think a suitable application might be made of the patent caoutchouc cloth in the form of a cylinder, and which might be enlarged when introduced, by the forced admission of air.

Laceration of the Perinæum.—This generally takes place at the time when the head or other presenting part of the child is passing through the vulva, and points

out strongly the necessity for supporting this part well and firmly at such a period, not removing the support for a moment if possible, even when a pain terminates, as at this period they recur, not as in the early part of the labour gradually, but suddenly and violently. With the greatest care, however, it will occasionally happen, but if confined to the frænum labiorum, or fourchette, approximating the parts, cleansing them frequently, and applying poultices and simple dressing, will soon effect a cure: the knees should be kept close or bound together.

Laceration of the perinæum is attended with sudden and violent pain, which continues after the child is born; it sometimes lays the vagina and rectum into one continuous canal or opening, and induces a most distressing state of things; for there being no power of retention, the fœces involuntarily pass through by the aperture for months or longer, (if indeed the injury is ever remedied,) and the

unhappy sufferer is obliged to keep in the recumbent posture constantly, distressing to herself and to all her friends. Drs. Denman, Merriman, and others, mention a peculiar laceration of the perinæum, which the former describes as a *perforation* of the part; it is a transverse rent bounded by the sphincter ani posteriorly, and by the frænum of the perinæum anteriorly, which latter is at the same time preserved entire. The child in some cases passes entirely through the aperture instead of the vulva: the hand should in this case be applied firmly, to supply the place of the perinæum.

Sutures do not appear to succeed in the majority of cases of lacerated perinæum. The parts should be kept well together, and thoroughly cleansed, fomentations and cataplasms, or mild unguents, should be applied to them, and perfect quiescence enjoined, whilst opiates or a cooling aperient mixture may be administered internally. An operation similar to that for

hare lip has been known to succeed, and is deserving of a trial under favourable circumstances.

Rupture of the bladder is of rare occurrence, many accoucheurs in large practice never having met with a case of it. It is caused by distention of this organ during labour, and shows the necessity of our being assured that it is always kept properly emptied at this time. Should the urine escape into the cavity of the abdomen, death will be the result; but if the neck of the bladder only be injured, fatal consequences are not necessarily to be apprehended, though the event is likely to prove very troublesome afterwards to the patient. Paralysis of the bladder is a complaint as much to be dreaded perhaps as rupture, being of more frequent occurrence.

UTERINE HEMORRHAGE OR FLOODING.

This is one of the most alarming occur-

rences, which can take place during the period of gestation, inasmuch as it places the patient's life often in extreme peril, and requires on the part of the practitioner, judgment, skill, unwearied vigilance, and entire self-possession. It is to be considered under *four* different heads.

1. Hemorrhage from the uterus in early pregnancy.

2. Occurring during labour before the child is born.

3. Occurring between the birth of the child and the expulsion of the placenta.

4. Supervening after the removal of the placenta.

Uterine hemorrhage in the early period of pregnancy almost always accompanies ABORTION to a greater or less extent. It may be produeed by the detachment of any part of the ovum from the uterine surface. The discharge of blood is sometimes very copious: when this is the case, the usual consequence is the expulsion of the am-

niotic fluid, followed by the contents of the womb. This evacuation proves an effectual check to the hemorrhage, because of the contraction of the fibres of the uterus and its vessels. Hemorrhage at this period frequently depends upon some morbid condition of the ovum itself. It may, however, be caused by accidents, external violence, great emotions of the mind, corporeal exertions, &c.

Some females are very liable to miscarriage, and in these cases it generally occurs about the same period of each successive pregnancy. The tendency to the occurrence of this accident is owing to a feeble or irritable state of the uterus. Some instances are related where the patient has aborted above twenty times. The commencement of abortion is accompanied by slight pains in the back and loins, similar to those of labour, recurring at intervals, and at length attended by a sanguineous discharge from the vagina. This

in many cases is of small extent, but it may be most profuse; in fact, the most alarming hemorrhage that I ever witnessed, was that accompanying miscarriage on one occasion.

Our *prognosis* should be guarded in cases of this description, as the existence of hemorrhage, even to some extent, does not *always* induce abortion; the greater it is in amount however, especially if the intensity of the pains increase, the more are we to apprehend such a result. Though a severe hemorrhage may not prove fatal to the patient at the time, it will still produce so great an effect on her constitution, that eventually she may sink from the debility induced by it. Should the liquor amnii escape, abortion is inevitable.

The treatment is preventive, palliative or active. Those females predisposed to abort, should avoid all circumstances calculated to produce irritability or debility

either constitutional or local. A quiet, regular life, and abstinence from sexual intercourse, should be enjoined. The apartment should be kept well ventilated, and the diet should be light and nutritious. No stimuli are to be allowed unless the patient is suffering from great debility. She should principally rest in the horizontal position, and use cooling beverage: cold bathing locally, and even injections per vaginam of cold water, may produce good effects. Should the patient be of a plethoric habit, the abstraction of blood from the arm by a small orifice, combined with mild aperients, may prove highly beneficial.

If the hemorrhage be at all profuse, the vagina may be plugged with a sponge,—a roll of lint or old linen dipped in a saturated solution of alum; cold injections per anum may be employed, and cold vinegar and water cloths applied to the abdomen. In some cases in which the discharge of

blood had become so great as to destroy all hopes of preventing abortion, and seemed likely to produce fatal results to the patient, I have seen great advantage attending the use of ergot in terminating the hemorrhage by expelling the ovum. This frequently is retained at the os uteri and may be extracted by the fingers or by a pair of dressing forceps.

Hemorrhage at the full period of gestation.—This may be caused either by the partial detachment of the placenta from the fundus or body of the womb, combined perhaps with some morbid affection of its structure,—or by its implantation over the os and cervix uteri; in the latter case hemorrhage must take place when the os uteri begins to dilate, so as to rupture those vessels which pass between it and the placenta. The former is termed *accidental*, the latter *unavoidable* hemorrhage.

When flooding occurs previous to, or during labour, it is indispensably neces-

sary to examine the os uteri in order to distinguish to which class the hemorrhage belongs, for our mode of proceeding will altogether depend upon this knowledge.

Accidental flooding may be caused by violent exertions, especially if sudden;—by strong emotions of the mind such as fright, &c. or by blows and falls.

The *symptoms* first perceived by the attendants generally, are faintness, yawning, paleness of countenance, weakness of pulse, and sometimes sickness, whilst the patient complains of a discharge coming from her. The attack is usually sudden.

Prognosis.—Hemorrhages arising from the causes above-mentioned are not in general so dangerous as those resulting from placental presentation, but still are sometimes attended by a fatal termination. The degree of hemorrhage may be greater or less according to the extent of detachment of the placenta; but we are not to form an opinion so much by the amount of

blood lost, as by the effects produced by it on the constitution, as some individuals will support a much greater loss of blood than others; the hemorrhage too, may not be altogether external, but may distend the uterus still more, and thus deceive the unwary practitioner. The state of the pulse, therefore, and general strength, must be our guides. If pain does not accompany these hemorrhages there is greater danger, as it indicates inertia of the uterus.

Treatment.—Flooding is always a dangerous symptom, and it is in the management of these cases that the self-possession of the accoucheur is sometimes put to a severe trial, as they require the most prompt and judicious treatment. The danger occurs too, occasionally, so suddenly, and becomes so imminent, that not a moment is to be lost, and consequently there is no time to consult another practitioner, and to have the benefit of his experience. In all similar cases the prudent

and composed behaviour of the medical attendant will materially allay the consternation and uneasiness of the patient and her friends; in fact, it is a most important point for him to maintain a calm countenance if possible in the midst of difficulties, as it is constantly and anxiously watched. A thorough knowledge of his profession, full acquaintance with the difficulties he is liable to encounter, and of the mode of action to be adopted on their occurrence, combined with self-possession and firmness, can alone enable him to feel well-grounded confidence, and so to bear himself as to impart assurance to others, in those truly trying circumstances. The room ought to be kept as cool as possible, the doors and windows opened, and the patient should be covered with very light clothing: cooling acidulated drinks may be given to her, and she should not be allowed to make the least exertion. Cold vinegar and water cloths are to be laid on

the lower part of the abdomen, and an enema of cold water is recommended by some practitioners. These means will sometimes suffice to put a stop to the discharge, after which the medical attendant must watch the patient constantly during labour, as a recurrence of it may take place. Should they not succeed, something more decided must be resolved on, and this consists,

1. In rupturing the membranes and allowing the liquor amnii to escape—a proceeding which will very often effect a stoppage of the hemorrhage, by allowing the uterus to contract, and so diminish the apertures of the vessels. Pains will now recur more strongly, and the labour will be completed without further assistance.

2. Should the last-mentioned plan not produce the desired effect, and no contractile efforts of the uterus be induced,—the hemorrhage still continuing so as to threaten danger, delivery must be effected

at once. To this end the os uteri is, if necessary, to be still more dilated, the hand passed up into the womb, the child turned, and the feet brought down. In more advanced stages the forceps may be occasionally applicable.

Unavoidable hemorrhage is attended with much greater danger than the former. Should the placenta be implanted *completely* over the os uteri, (which is not often the case,) the more the latter dilates, the more imminent is the peril to the patient. It frequently happens that it is attached to the cervix uteri principally, with a border or portion of it only, lying over the orifice: in cases of this description, slight hemorrhage usually occurs from time to time, previously to the ninth month of gestation, and is the first indication of what we may expect when labour comes on This occasional loss of blood depends on the gradual preparatory changes in the cervix and os uteri; it is not un-

likely to happen at any period after the fifth month, but is more commonly observed a few weeks only before the full time of gestation.

I have met with three cases of placental presentation in 2,070.

When called in to any case in which there is reason to suspect that the placenta is attached to the cervix or os uteri, nothing short of a careful examination 'per vaginam,' ought to satisfy the practitioner. If he be not able to determine the fact by the usual mode of examination with two fingers, he must introduce the whole hand into the vagina in order to examine, rather than remain unsatisfied on this point. If the placenta be placed over the mouth of the uterus, the fingers come in contact with a pulpy, stringy and fibrous mass, compared by Dr. Hamilton, not unaptly, to the feel of wet dimity, which is soon recognised by those conversant with the subject A clot of coagulated blood may be

sometimes mistaken for it by beginners, but it is much smoother and softer, and is more easily pushed back or penetrated, than the placenta.

The prognosis, as in the former case, will not depend so much on the quantity of blood actually lost, as on the effects produced by it on the constitutional powers. It is astonishing to what an extent this loss can be borne sometimes with impunity when it drains slowly from the patient, but a repetition of sudden and profuse gushings will be attended with much greater danger, and when this is the case, the patient holds her life by a very uncertain tenure, as the results under such circumstances are necessarily frequently fatal. It is almost always difficult to estimate correctly the quantity of blood lost, especially from the account of the attendants, and this will induce us to be guided, as I before remarked, more by the rapidity of its loss, and above all, by

the degree of impression made by it on the vital powers.

The majority of the children in these cases are dead.

The *symptoms* are of course the same as in accidental hemorrhage, but may assume a much more serious aspect; in addition to the pallor of countenance, feebleness of pulse, lividity of the lips, coldness of the extremities, restlessness, oppressed respiration, delirium and convulsions may appear, and foretel a speedy termination to this unhappy scene.

Treatment.—It has been recommended by several distinguished accoucheurs, that when called in to a case of this description before the full period, the vagina be plugged fully, with lint or some other soft substance saturated with a strong astringent lotion: this mode of treatment, however, seems liable to the objections that *internal* hemorrhage may still take place, or that when this tampon or plug

is used for any length of time, irritation may be set up and be communicated to the womb itself. Palliative remedies, and especially all such as may quiet the system and lessen the action of the heart and arteries, must be adopted, and besides these, strong astringent injections may be frequently used. These means, however, only succeed for a time, and if the discharge become more frequent and profuse, we must make up our minds at once to expedite delivery in order to save the patient's life.

The delivery is to be effected by pressing the hand up through the os uteri, if dilated, rupturing the membranes and carying it between the placenta and parietes of the womb; or by forcing the hand directly through the substance of the placenta itself, until we reach the feet of the child, (whatever the presentation may be:) these are to be brought down and the infant extracted; an assistant having during

this time pressed moderately on the abdomen to aid us in the operation, which should be performed slowly and carefully. Before commencing it, it is advisable to give the patient some light nourishment to recruit her, such as beef-tea, arrow-root, warm milk, or weak wine and water. After the birth of the child there is not, in general, any difficulty with the placenta itself—the womb contracts, and the hemorrhage ceases, but the patient requires very careful watching afterwards.

Much difference of opinion exists as to whether the hand should be passed between the placenta and uterus, or if it should be used to perforate the body of the former, passing it through it in order to reach the child; the first method is generally deemed advisable if it can be easily effected, which it may be, when a portion of the placenta only, overlaps the os uteri; but when the placenta is implanted completely over the orifice, the hand must be passed

through its substance. When the dilatation of the mouth of the uterus is not sufficient to allow of the passage of the hand, it is not necessary to wait until nature effects it, for in cases of hemorrhage, dilatation by artificial means is much more easily produced than at other times. It may be accomplished by the introduction of two fingers, gradually and very carefully pressing them apart against the lips of the os uteri, and will not occupy much time. The delivery of the child altogether may be effected generally in from ten to fifty minutes, or an hour at the farthest. Dr. Hamilton extracted the child in one case ten minutes after his arrival, although he found the os uteri perfectly undilated. We need not, in this operation, wait for any pains, as they are frequently absent, owing to the flooding itself paralysing the force of the uterine parietes. If contractile efforts still remain, each one is accompanied by a gush of blood. At the

moment of passing the hand into the os uteri, the hemorrhage is often much increased, which might induce a timid practitioner to withdraw it again, whereas it is to be considered an additional reason why he should proceed. In order to guard against injuring the soft parts, the child should not be extracted too quickly. If hemorrhage from any cause take place in a case of twins it is doubly hazardous, till the second child is brought down, as it will keep the womb distended, and should on that account be extracted without a moment's delay. After the delivery of the child the hand is again to be carried up if necessary, in order to extract the placenta, and it is advisable to keep it in the womb till the latter be completely contracted. We should, even here, be on our guard, for after contraction has taken place, it sometimes becomes relaxed again, and alternate contraction and relaxation may occur even more than once.

Several instances are mentioned by ob-

stetric authors in which the placenta was completely detached and expelled before the child, and yet the patient did well. A total separation may perhaps in such cases be less dangerous than a partial one. The patient in all cases of hemorrhage should be kept with her head low, and should not be allowed to make the least exertion.

3. *Hemorrhage occurring between the birth of the child and the expulsion of the placenta.*

Inertia of the uterus is a frequent cause of this variety of hemorrhage; it may be the result either of a tedious and painful labour, or of a very quick and hurried one,—the womb remaining in a flaccid and dilated state, and thus permitting the mouths of the large sinuses to pour forth blood. This condition may be recognised not only by the flaccidity and continued enlargement of the abdomen, but also by an examination "per vaginam:" one part of the uterus may remain inert,

however, without the other being so, and on this depends the *encysted state of the placenta* which is occasionally met with, the fundus of the uterus contracting on it, whilst the lower part remains distended. In the 2,070 cases before alluded to, there have been four of encysted placenta, and five of common retention without flooding.

Encysted Placenta.

A morbid condition of the placenta producing an unnatural adhesion of it to the parietes of the uterus, is the result, in most cases, of some previous inflammatory action having occurred at the part, owing either to extraneous violence, or to accidental congestion. Partial separation of it may take place at the healthy part, and this occasion the hemorrhage. This morbid adhesion is always attended with great danger to the patient, and requires the assistance of the accoucheur in almost all cases, as hemorrhage ensues to a greater or less extent after a time, and sometimes immediately follows the birth of the child.

There are then *three* causes of *retained placenta.*

1. Want of contraction or inertia of the uterus.

2. Irregular contraction of it.

3. Morbid adhesion of the placenta itself.

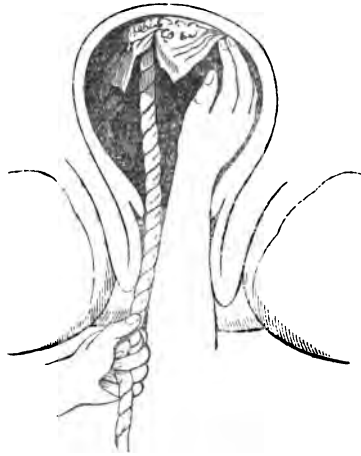
Management of placenta.—In a few

minutes after the birth of the child, one or two slight pains are felt by the patient, by which the placenta is expelled from the uterus; this on the average occurs about twenty-five minutes after the expulsion of the child. But sometimes the placenta is retained within the uterus, and nothing but the cord itself can be felt by the finger, though passed as far up as possible, the fibrous gritty sensation which the root of the placenta at other times imparts to it, not now being distinguishable. In such a case it is proper to delay any proceedings for the space of an hour, in the hope that the interference of the accoucheur may be rendered unnecessary: should the detachment not take place by the expiration of that time, we are in almost all cases justified in effecting it, but no delay is admissible should hemorrhage have appeared, as it may suddenly become profuse and be attended by danger.

The practitioner may at first endeavour

to assist the expulsion of the placenta by compression and friction of the abdomen, by suddenly applying a warm napkin to the latter, and by pulling *very gently* at the cord from time to time. Injections of cold water into the vessels of the cord have been recommended, but in one or two cases where I have tried this method, it has been attended by no good result.

In some cases, the placenta, though detached, is retained in the womb by the latter having contracted on it: under these circumstances, it is advisable to untie the umbilical cord and allow the escape of the blood contained in the placenta, by which, its bulk will be diminished and its extraction more easily effected.



In order to extract the placenta, the operator is to twist the cord once or twice round the fingers of the left hand, whilst the right is passed up along it into the uterus. The mere introduction of the hand will in some cases excite the equable contraction of the uterus, and thus release the placenta; but should it not do so, the latter must be searched for, and will gene-

rally be found at or near the fundus. The fingers are now to be passed round between the placenta and uterus, so as to separate the former slowly and carefully, and to leave no portion behind, if possible. Should it be encysted—the fingers are to be introduced into the cavity, and the spasm overcome. When the placenta is in a schirrous or morbid condition, it is most likely to be torn and part of it to remain attached; Dr. Hamilton in this case used to recommend that we should separate what we can and leave the rest, instead of probably injuring the uterus itself by violence, in endeavouring to bring away the whole. There is here, however, but a choice of evils, as the retention of a small portion of the placenta will often cause serious symptoms.

When detached from the uterine surface the placenta is to be withdrawn slowly, while an assistant presses the abdomen, in order to effect the contraction of the womb.

It should be drawn in the axis of the parts through which it has to pass. The same operation is necessary, when the cord, owing either to its slight structure, or to violence in pulling it, is broken off high up.

Hemorrhage supervening after the removal of the placenta is likely to be attended with much danger, as it may continue for some time without the medical attendant being aware of it. The patient has perhaps been left in a satisfactory state by him on his retiring into another room, yet within half-an-hour after, on his return he may find her lying, as the nurse has informed him, very quiet, but the pulse is feeble, her countenance pale, she complains of great faintness, and on being asked the question, she says there is a great discharge coming from her. It may even happen that after the accoucheur has left the house altogether, he shall be hastily summoned to return, and find her in the above-mentioned state. The practitioner

ought invariably to feel his patient's pulse previously to taking his departure, and not content himself with merely looking at her, for it has more than once happened that a woman has been thus left apparently in a gentle slumber, whilst in reality she had fainted from hemorrhage, and on the discovery of this fact afterwards, human aid was of no avail.

Hemorrhage, at this time, may be *internal* only, and is on this account most insidious: the explanation of the circumstance is, that the blood at first may coagulate in the vagina, thus forming a plug which prevents the escape of that which afterwards continues to flow. The uterus now becomes gradually distended by it, and thus a very great quantity may be lost without the attendants being aware of the fact. Whenever a patient, after labour, complains of giddiness or swimming in the head, attended by a singing in the ears, we may always suspect the presence

of internal hemorrhage. Pain in the back likewise often accompanies it; and when the discharge proceeds to any copious degree, the extremities become cold, the pulse intermits, the patient is unconscious of what is passing, and involuntary sighing and constriction of the chest warn us of a fatal termination.

Torpor of the uterus is the immediate cause of this dangerous state, and our remedies must therefore be directed so as to restore its proper tone and strength. Immediate examination should be made 'per vaginam,' the hand being introduced in order to remove the clots and to excite the contraction of the uterus. Cold vinegar and water should be dashed on the abdomen, and cloths dipped in the same should be applied afterwards on the loins and pubes. Friction, and the application of a bandage more tightly than usual, will much assist our endeavours. Pounded ice in a bladder, placed on the lower part of

the abdomen, is very efficacious in allaying the hemorrhage, and exciting a proper contractile disposition in the uterine fibres and vessels. In some cases we require to continue the use of these applications for several hours. The patient's face and hands may be occasionally sponged with cold vinegar and water, and slight stimulants may be administered, though with caution.

After the uterus is quite contracted, an opiate will be attended with excellent effect; and this is given by some practitioners to a large extent. Dr. Hamilton, for example, in cases attended by delirium, used to recommend five grains of solid opium at first, and to repeat it every three or four hours, in the dose of three grains, in order to support the vis vitæ. In some cases, however, opium may even do harm, and we should at all times employ it with caution. If any oozing continue, a cold injection may be thrown up the vagina or rectum. Ergot of rye I have found of

much service in effecting contraction of the uterus, in two or three cases of profuse floodings owing to inertia of this organ. The utmost care should be taken to prevent the patient making the least exertion for some hours after flooding, and it is sometimes dangerous, even to raise the head, and shoulders during this period.

The occurrence of flooding takes place generally within half an hour, or an hour, after delivery; but occasionally comes on even a day or two after it.

Those patients who have suffered from it in one confinement, should be very carefully watched on future occasions, for fear of a recurrence.

The danger of flooding is not only immediate, but may ultimately prove fatal to the patient, from the serious debility it induces. Some idea may be formed of the extent of this debility, from a case of Dr. Hamilton's, in which, such a hemorrhage occurred in the space of a few minutes,

that though the lady consumed a bottle of wine daily for six weeks, she was still suffering from extreme debility at the expiration of twelve months.

In Madame Lachapelle's practice, 24 cases only of flooding occurred out of 15,481 labours, or 1 in 645; but this is a very small proportion, as two years afterwards, in the practice of the same establishment, the average, by Dugés, was 1 in 159. The usual average I believe to be about 1 in 200.

In 2,070 cases, I have attended three of flooding after the expulsion of the placenta, two during labour, two from the retained placenta, and four severe cases in premature labour :—total, 11, or about 1 in 188.

In cases of severe flooding, in which the bleeding is suspended, but the patient gradually sinking, Dr. Blundell has repeatedly succeeded in restoring the patients by the operation of *transfusion*, or

the transmission of blood from a healthy person immediately into the veins of the patient. Other practitioners have likewise since been equally successful.

The usual mode of performing the operation is as follows,—and I prefer giving the description of Dr. Blundell himself, as far as I can in a condensed state.

"A well-constructed, two-ounce syringe, air-tight, made of brass, tinned internally, not clogged with oil yet perfectly clean, is to be used in the following manner. With a sharp scalpel, the basilic or cephalic vein is to be laid bare, and a short incurvated probe is passed under it at the lower extremity of the incision. It is then to be opened to the extent of one-eighth of an inch with a sharp lancet, and we satisfy ourselves that the orifice will admit easily the small tube of the syringe.

The arm of the person who is to supply the blood is now to be bound up, an opening made into his vein, and the blood to be

received into a conical-shaped vessel. It is to be drawn into the syringe (previously warmed by the transmission of tepid water,) leaving a small quantity in the vessel, for fear of absorbing any air; a teaspoonful of blood is then to be forced out of the syringe, in order to expel any air that may by chance have entered it.

"The point of the tube, bevilled like a teapot-spout, is now carefully introduced into the vein of the patient, and insinuated, to the extent of half an inch towards the heart. The blood should be *slowly* infused, and the patient's countenance carefully watched, to mark its effects. If the lip quiver, or the eyelid flicker, we are to cease;—if the countenance improve, we proceed with a fresh supply of blood, and with the same precautions we again introduce the point of the tube,—waiting, however, six or eight minutes between each injection, that the blood already introduced may have time to circulate through the

system. Four or five ounces, according to Dr. Blundell, will turn the balance in our favour in delicate cases, but eight or ten are generally necessary. Care must be taken in this operation to raise the vein fairly on the probe, to have the syringe in perfect order, and to wash it out well between each injection.

Of Labour accompanied or preceded by Puerperal Convulsions.

The symptoms of this complaint are more allied to those of epilepsy than any other malady. Their origin is not sufficiently known, but they often arise from irritation of the uterus, and not unfrequently from that of the alimentary canal. Cerebral congestion is a constant attendant upon the disorder, but it remains a disputed point whether it is a cause or effect: it is the first and most urgent symptom however, to which we have to attend.

Certain *premonitory symptoms* almost

always precede puerperal convulsions. These are, severe and acute pain in the head, attended with a sensation of constriction, giddiness, wandering of the ideas, flushed countenance, brilliancy or suffusion of the eyes, ringing in the ears, violent pain in the stomach and sickness, rigors, drowsiness, sudden starts, sighing, slowness and fulness of the pulse;—in fact, all the signs of congestion of the brain. They gradually terminate in a violent shaking of the whole frame; the muscles, especially those of the face, are convulsed, the hands are clenched, there is foaming at the mouth, the eyes roll about, the pupils are dilated and insensible to light, and a *sharp hissing* noise, attends the convulsive inspiration, though occasionally, instead of this, the breathing is stertorous. The fit generally continues for the space of from one to five minutes. Sometimes it comes on suddenly without any precursory signs: the patient is seized at once with

a violent shivering, the limbs are thrown about with great force, the neck and face are swollen and of a purple hue; it is difficult to keep her in any position, and the before-mentioned symptoms appear very speedily.

The condition above described is usually succeeded by intense stupor, from which the patient awakes unconscious of what has happened; she remains for a time easy, but a recurrence of the fit soon takes place, and this may be repeated several times. The child, together with the fœces and urine, are sometimes expelled during the fit. The first attack is not always the most violent one, but may be succeeded by several worse, the pulse becoming more full and slow at the approach of each. In some cases, however, there is but *one* fit, in others as many as *thirty*.

Diagnosis.—Hysteria is the only complaint which may be confounded with the disease under discussion; but in this, the

pulse is not similarly affected, and no coma supervenes.

The prognosis is generally unfavourable, especially if intense lancinating pains in the stomach or head precede the attack. The more violent and numerous the fits are, the greater is the danger, especially if the intervals between them be short, or accompanied by coma. Serous apoplexy, and mania, are in some cases the results of this alarming disease. When the convulsions precede labour they are more dangerous than when occurring at its termination. Sometimes, however, they continue *after* the birth of the child, until death ensues. Nearly one half of the patients attacked by puerperal convulsions die, and the chances are still greater against the children, most of whom perish.

Young, irritable, robust women, and those of lymphatic temperaments, are most liable to these attacks, especially in their first labours.

Puerperal convulsions appear to be much more frequent at some seasons than at others. They almost invariably happen in the latter months of pregnancy, and I know of only one case which occurred so early as the *fifth* month.

Severe floodings are occasionally accompanied by convulsions.

Treatment.—When patients complain of severe lancinating headache during labour, it is advisable to abstract a few ounces of blood from the arm as a preventive measure: this is especially necessary, as pain is frequently the strongest precursory symptom of approaching convulsions. When the latter actually occur, we have no time to lose. A large bleeding is immediately to be had recourse to, and this may require to be repeated three or four times, in stout plethoric subjects, before the convulsions are subdued. Forty ounces of blood, abstracted at once and in a full stream, will not be too large a quantity;

and should the symptoms not be relieved, as much more may be taken in a short time afterwards. In delicate subjects, we cannot of course use such active treatment, but must have recourse rather to topical bleeding, as by leeches, or cupping. When convulsions continue with any violence, and other symptoms become very urgent, delivery should be accomplished as speedily as possible. If the membranes are still entire, they should be ruptured, the os uteri carefully dilated, and the hand passed up in order to turn the child and bring it away. Some authors think that the introduction of the hand increases the force or frequency of these convulsive paroxysms: in mild cases this proceeding, therefore, is not to be adopted; but when the dangerous symptoms are increasing in strength, I consider it to be highly advisable. If the head be low down, the long forceps are to be applied in order to extract it more quickly; in some cases,

when this is impossible, and the patient's danger is increasing, the perforator may be employed.

It is necessary to secure the patient's tongue from injury, by placing a cork or piece of wood between the teeth; the hair should be cut off, and cold lotions, or pounded ice in a bladder, applied to the head: cold water may also be poured on it from a height. The shoulders should be kept high, the room cool, and sinapisms may be applied to the feet, to the inside of the thighs, and to the calves of the legs. A catheter may be passed into the bladder in order to empty it, and a cathartic glyster ought to be administered. Should coma supervene, the head must be shaved, and cupping-glasses be applied to the nape of the neck. If the patient can be made to swallow, a large dose of calomel (about ten grains) and salts is to be given. The evacuations are generally dark and fœtid, and the blood abstracted shows the buffy coat. Opium is a very

doubtful remedy in these cases; indeed, Dr. Hamilton affirms, that in every case, except one, in which he used it, the patient died. The ergot has been recommended strongly by some writers, but it is not always possible to administer it.

Should a patient who has suffered from convulsions become pregnant again, it will be requisite to watch her carefully during the progress of gestation. She should be kept quiet, constipation should be avoided, and in the event of any symptoms indicating the approach of convulsions, it will be proper to bleed her immediately. In some of these cases it is astonishing to what an extent venesection may be carried without inducing miscarriage: thus, De Lamotte,* in five months, bled one patient eighty-six times, in order to check urgent symptoms.

Madame Lachapelle, out of nearly 38,000 cases, met with 61 of *convulsions*: in these, the forceps were applied twenty

* Traité Com let des Accouchemens.

times, and turning had recourse to, five times. The great majority of these cases occurred *before* delivery.

Dr. Merriman gives the proportion as 48 in 2,000 cases, or about 1 in 42; but this is so large, that I suspect it must have arisen from the circumstance of Dr. M.'s consultation-practice being taken into the account. The very different result that will appear between the average taken from private and consultation practice, and *that* derived from a public institution, is well exemplified by the statement of M. Velpeau, to the effect, that in his private practice, he met with sixteen cases of this description out of 1,500, whilst in the Hôpital de la Faculté, he did not meet with *one* in *a thousand* cases.

In the 2,070 cases of delivery which have come under my superintendence, I have met with four of puerperal convulsions, of which, two occurred previously to the commencement of labour, and two during its progress. Several very inte-

resting cases of this formidable malady are to be found related in Dr. Ramsbotham's useful work.*

Inversion of the Uterus

Occurs generally whilst this organ is in a dilated state, immediately after the birth of the child, and may be either *partial* or *total.* In most cases it is produced by the incautious practice of forcibly drawing the umbilical cord in order to extract the placenta, before its separation, by which act it is dragged down, but still attached to the fundus of the uterus, which is in fact "turned inside out." In a very few cases, the inversion has occurred spontaneously.

Diagnosis.—In ascertaining the nature of this accident, care must be taken not to confound it with prolapsus uteri, or polypus of that organ. In *prolapsus*, the os uteri may be discovered at the depending part of the tumor, and the case is not at-

* Practical Observations in Midwifery.

tended with the hemorrhage and severe pain which accompany *inversion.* When the uterus is *partially* inverted, it may be easily distinguished by the great bearing down, and the presence, at the external orifice, of a tumour which has a rough surface, and is compressible. This accident is attended by great irritation about the bladder, with constant desire to pass urine, but inability to do so.

Prognosis.—Great prostration of the vital powers, from the repeated hemorrhages, soon appears in cases of *total* inversion of the uterus: even those of *partial* inversion are attended with much danger, unless met by prompt and judicious treatment.

Death generally follows severe cases of this description. They may prove rapidly fatal by hemorrhage and syncope;—convulsions may be induced; or inflammation may, though more slowly, terminate the patient's life.

Dr. Hamilton, *primus*, was called to six cases of total inversion of the uterus, five of which had died before his arrival, and the sixth was saved with great difficulty.

Treatment.—In the management of a case of this disastrous nature, there is not a moment to lose; the replacement of the uterus must be instantly attempted, as reduction of it is impracticable if the attempt be long delayed: the loss of a *few minutes* will sometimes prevent our accomplishing this object, owing to the contractions of the womb on itself. It should first be returned into the vagina; the accoucheur then bares his arm, anoints it, and introduces the hand, pressing the back of his fingers against the fundus, so as to carry it up before them until he finds that the mischief is repaired, and that the organ begins to contract. The placenta is not to be detached till the uterus is restored to its proper position. Cold applications should now be used both internally and

externally, and the endeavours directed to exciting contraction of the womb, without which, inversion may again occur. If the patient survive, astringent lotions may be used to the part, and a pessary employed, in order to retain the tumour within the vagina. Incurable inverted uterus has been extirpated by M. Chevalier and others.

Emphysema of the Face and Neck

May suddenly occur during labour, and cause great alarm to a young practitioner, as it alters and disfigures the countenance in an extraordinary manner. Great straining or screaming may produce it, and it probably depends on some partial rupture of the lining membrane of the larynx. I have seen two or three cases of slight emphysema of this description, and one which occurred to a great extent, in the case of an out-patient of the General Lying-in

Hospital, in whom this tumefaction spread to the shoulders and chest. Little treatment is required;—slightly stimulating applications to the parts affected, together with the use of gentle aperients, will suffice to remove it in a few days.

Œdema and Extravasation of blood in the Labia.

Either of these circumstances occur occasionally during labour, and sometimes to a great extent. They are owing to rupture of one of the smaller vessels of the part, and a sanguineous or serous effusion may thus take place whilst the head of the child is passing the inferior strait.

The *treatment* consists in puncturing the tumour, in the application of leeches and poultices, compression, and cooling or stimulating lotions to the swellings, together with the administration of one or two brisk purgatives.

Cicatrices and partial adhesions of the Vagina.

These are generally the results of injuries of the vagina during a previous labour, and may prove a complete barrier to the progress of the child. Dr. Denman affirms that he never met with a case of this description which did not yield to the pressure of the child, although the labours were considerably prolonged. It is better, however, not to allow this useless and lengthened expenditure of strength, especially as rupture of the vagina might possibly be a consequence of non-interference on the part of the practitioner. In one case which I met with, although the os uteri was fully dilated, and the forcing pains were remarkably strong, many hours elapsed without the least advance of the infant; but on dividing the band or cicatrix, the passage of the body immediately

was the result;—it was a breech presentation. The operation is attended with little or no pain, and if performed with common care, is not accompanied with the least danger. The left forefinger is passed up to the part, and a probe-pointed bistoury, guarded to within half an inch of its point by thread or lint, is passed up along the finger, and the division easily made. Adhesions to a large extent, so as in fact to occasion nearly complete occlusion of the vagina, are described by some authors as having fallen under their notice. When they occur, the same operation will be necessary, though requiring still greater care.

Excrescences of the os uteri, accompanied by some degree of schirrus of the part, occasionally exist, and *tumors in the vagina*, or *enlargement of the ovaries*, either from dropsy or schirrus, are sometimes, though rarely, the causes of complicated labour. If they are small, they may

not create great difficulty, but should they have increased to any extent, much danger is to be apprehended. Many fatal cases of this nature are recorded.

In some instances a large dropsical ovary has been punctured through the posterior part of the vagina. It is a doubtful point, in these melancholy cases, whether the tumors should be punctured, the forceps used, the child's head perforated, or turning be had recourse to. Dr. Merriman gives eighteen cases, in which half the number of the patients died, and three-fourths of the children, although these different proceedings were by turns adopted. Should the tumour contain fluid, the preferable method would appear to be to puncture it, and leave the rest to nature.

Enlarged hemorrhoids and *tumors* at the lower part of the *rectum* sometimes tend to complicate labour in the latter stage, owing to the severe pain occasioned

by the pressure on them. I once met with a case of fibrous tumour, which had been increasing in size for many years, and owing to its protruding towards the vulva proved a source of embarrassment. In consequence of the urgent symptoms it produced after the labour, I was obliged to remove it by ligature.

Hernia sometimes, though rarely, complicates labour. Those females who are subject to umbilical hernia especially, may have the intestine protruded at this time. The practice of course is to reduce the hernia if possible, whilst the pains are off, and to sustain a firm pressure on the part during their access.

The bladder may be protruded, in the early part of labour. Instances have occurred of ignorant midwives mistaking it for the membranes and puncturing it. It should be returned and kept in situ during the pains: but it is a very unfrequent accident.

General Treatment after Delivery.

When the placenta has been extracted, a couple of warm napkins should be applied to the vulva and under the nates of the patient, a bandage placed round the abdomen, which should be again examined at this time. The pulse should be felt, and inquiry made of the patient, if she finds herself comfortable and easy. It is advisable to see that she is properly covered by the bed clothes immediately after delivery, as cold, I think, is frequently caught by negligence of this precaution, whilst attention is being solely directed to the child. After ordering her a little warm tea or gruel, the accoucheur may retire into another room for an hour, leaving directions that the patient should lie undisturbed for half that time: at the expiration of this period, if she be going on well, her bed and linen are to be properly adjusted. It is necessary to take great care that dur-

ing this process, the patient be not allowed to make any exertion, or even to raise herself from the horizontal position, as serious consequences have sometimes followed this imprudence. On the return of the practitioner, it is proper to examine the state of the pulse and abdomen again: inquiries may be made of the nurse as to the discharges, and whether the "binder" has been properly re-applied.

The infant should be examined by the accoucheur before it is dressed, to see if there be any deformity.

It is highly requisite, when the patient has already borne children, to order a composing draught an hour after the labour is terminated, to allay the after pains. The following may be used,

℞ Cetacei ʒss.	Tinct. Opii. m. x.
Vitell. Ovi. q. s.	Aq. ʒi. ft. Haustus.
Spt. Cinn. ʒss.	One every four hours.
Syrup. ʒi.	

Or, thirty drops of the Vinum Opii may

be given in a little cinnamon water with a small addition of syrup, and ten drops every three hours after, till the pains abate.

It is usual to prescribe about ʒss. of Ol. Ricini for the child, which may be combined with a little Syr. Rhœados, in order to hasten the evacuation of the meconium. The patient should be revisited at the latest within twelve hours, when inquiries are to be made respecting the lochia, the state of the urinary bladder and bowels, and the hand should be passed over the abdomen to examine whether it is tender to the touch or not. Some females, owing to their delicate state of health, require occasional visits during three or four weeks, whilst others need not be seen above five or six times after their confinement. The DIET at first must be low, unless circumstances point out the necessity of an exception to this rule. Gruel and tea are generally sufficient for the first two days. Beef tea, arrow root, light puddings, may

then be allowed, and fish, chicken, or mutton, be afterwards taken for dinner. The room ought to be kept cool and well ventilated, (60° or 65° Fahrenheit,) and silence enjoined as far as possible.

After pains are not often troublesome in a first confinement. They in general commence within half an hour subsequently to the removal of the placenta; they are borne with great impatience, and are in some cases so very severe, that the patient complains that they are equal to her labour pains. Gentle frictions on the abdomen and the application of hot flannels will often alleviate the suffering from this cause, but in general, we can only trust to a large dose of Tinct. Opii (from fifty to eighty drops.) Warm injections both per vaginam and per anum, may assist in allaying them. Tight bandaging is likewise required—and it is perhaps advisable to give a purgative within the twelve hours, when after pains are severe.

Slight rupture of the posterior commissure of the vagina is not an unfrequent attendant upon parturition. The external parts may in these cases be bathed occasionally with warm milk and water, or weak spirit and water: this treatment will generally prove sufficient, but should the pain be at all severe, a poultice to the part may be required.

Retention of urine occasionally follows labour. The accoucheur ought always to be particular in his inquiries on this point, as some patients have an objection to mention the circumstance unless asked in a direct manner. The catheter should in most cases be immediately introduced, though in those not attended by pain or great feeling of distention, ʒi of the Sp. æth. nitr. may be given every hour till the bladder is relieved. We are naturally more anxious that the urine should be voided when the patient complains of pain in the lower part of the abdomen, accom-

panied by an ineffectual desire to pass it, and after a protracted or instrumental labour.

Incontinence of urine is more serious, and depends on some paralytic affection of the bladder, owing to the previous pressure on it, or to some mechanical injury. The treatment in this case consists in the application of a blister over the sacrum, and the exhibition of small doses of Tinct. cantharidis.

Fainting takes place sometimes after labour without depending on hemorrhage. Some patients are subject to it at all times, and are naturally more so after the severe pains they have suffered during this process. It is to be treated on general principles as at other times. The head should be kept low, no exertion allowed—and a stimulating draught of ammonia, &c. may be ordered.

Violent shiverings are not unfrequent immediately after labour, the patient com-

plaining of a sensation of great cold. An additional blanket may be placed over her whilst they last, a little warm wine and water administered, and hot bottles be placed to the soles of the feet. When, however, they occur some days after childbirth, they may prove indicative of serious disease.

Suppression of lochial discharge.—After delivery there is a sanguineous discharge from the uterus for a few days; this gradually assumes a greenish hue, and lastly becomes pale, decreases in quantity, and generally disappears within three weeks. Both the quantity, and period of its continuance, vary much in different individuals. The discharge is often of an acrid nature towards its termination, and excoriates the parts, so as to make it necessary to wash them frequently, with diluted tepid spirit and water.

Sudden suppression of the discharge sometimes takes place two or three days

after delivery—attended by a violent pain in the lower part of the abdomen, and by febrile symptoms; difficulty of passing urine, tumefaction of the abdomen and shiverings sometimes accompany it. The object in the treatment, is to restore the discharge, and consists in the administration of aperient medicine with diaphoretics, and the use of warm fomentations to the abdomen and vulva.

Inordinate lochial discharge is generally owing to the debility of the patient, or to her being kept too warm: cool diet should be used, with the addition of tonics and refrigerants.

Milk fever generally comes on about the third day—and is ushered in by fever, sickness, pain in the back, together with great tumefaction and pain of the mammæ. A brisk purgative should at first be given followed by diaphoretics: fomentations to the breasts are to be used, and the child should be applied to them frequently. The

patient's diet should not be of a fluid nature. It is, I think, a good practice to put the infant to the breast soon after delivery in almost all cases, as even should there be no milk, the application of the child's mouth will tend to draw out the nipple before the breast becomes tumefied, and will frequently be the means of preventing inflammation and the formation of abscesses in the part.

Retention of a small portion of the placenta may be followed by very unpleasant symptoms: it takes place usually after a morbid adhesion of part of its substance. Aperients, and the use of warm injections into the womb are the most useful means to be employed, if it is found impossible to extract the fragment left behind.

Many, and sometimes very dangerous diseases are consequent on the process of parturition, such as Puerperal fever, simple Inflammation of the womb or Hysteritis, Hysteralgia or spasmodic af-

fection of it, puerperal Mania, Phlegmasia dolens, &c. It would, however, be inappropriate in a book of this description, to enter into a description of them, and the author therefore refers the reader to the many voluminous and excellent works which treat of the *Diseases of Lying-in Women.*

FINIS.

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